# The Proto-Vedic Continuity Theory of Bharatiya (Indian) Languages

**S. Kalyanaraman and Mayuresh Kelkar (October 2005)**

**Abstract.** This monograph proposes an alternative Proto-Vedic Continuity Theory of Bharatiya Languages, to study evolution of languages in Bharatam, and replaces the invasionist model of Indo-European Linguistics (IEL). A paradigm shift in language studies of Bharat (India) is suggested, starting with the identification of bharatam janam, a phrase used by Vis'vamitra Gathina in the Rigveda (vis'vamitrasya raks.ati brahmedam bharatam janam 'this mantra of Vis'vamitra will protect the nation of Bharata people', RV 3.53.12). This calls for a study of mleccha, vra_tya, jaati in ancient bharatam, from Paleolithic times, exemplified by Nahali > Nagari. [Mleccha (Meluhha) is the language of dvi_pava_sinah, early metal workers and artisans (karma_ra, kamar), the speakers living along coastlines of the Indian Ocean Rim and in doabs -- overlapping river-basins between two rivers -- who created the maritime-riverine civilizations.] Many conclusions can be derived from a study of bharatiya savants who have contributed to language studies. The corpus of grammars and texts available in all parts of Bharatam is just stunning, as our pitr.-s have delved deep into the subject of bhasha. We have to re-discover their contributions and use the bharatiya research method (a triad composed of s'ruti-tantrayukti-anubhuti, which should replace the constrictive Hegelian dialectic of thesis-antithesis-synthesis) to progress the studies further to unravel the linguistic area of circa 3000 BCE. A linguistic area is defined as an area where many languages/dialects interact and absorb one another's features as their own. In such a setting, the categories such as non-agglutinative, agglutinative become meaningless. There is intense interaction among the so-called munda, dravidian and indo-aryan families of languages. Instead of invasionist models proposed by IEL, we should expound on a Proto-Vedic Continuity Theory. The Veda arrives on the scene with such profundity of thought, that at least a score centuries should have been involved in a Proto-Vedic (mleccha + samskr.tam) evolving into Vedic and later Samskr.tam, differentiating further as Prakrits (Dravidian, Munda, Apabhrams'a). Languages do change but they also conserve. IEL is an ideology and it is unfalsifiable, hence not science. The IEL method of drawing upon genetic theories is also unacceptable because languages do not follow biological change laws. Languages evolve and semantic expansion occurs due to interchanges in a social contract. Sangam literature (cf. Patir-r-uppattu) refers to cera vel.ir kings descent from 49 generations from Dwaraka (Tuvarai mentioned in Patirruppattu, cf. Bibliography), may be after its submergence mentioned in Mahabharata mausala parvan. There was an excellent article by Prof. KV Sharma on the subject citing Sangam literary sources in Adyar Bulletin. One view is that Vedic civilization had its maritime roots in Tamil-Southeast Asian hindumahasagar rim before settling on sarasvati - sindhu doab basin. The monograph advocates a radical departure from the methods of IEL. What is suggested is a continuation of the earlier language studies by bharatiya savants, so as to delineate the Proto-Vedic Continuity and, to contribute to a better understanding of the I in the IE. Such an exercise is likely to provide answers to the interactions between Sarasvati civilization and the European civilizations and the corresponding interactions among Bharatiya and European languages taking into account the geological fact that Bharat was not subjected to glaciation, unlike most parts of Europe (which renders the problem of European languages and expansion of farming and relocations

of people, a complex exercise differentiating pre-glaciation and post-glaciation periods).(Adams, John, and Marcelle Otte, 1999).

# The Proto-Vedic Continuity Theory of Bharatiya (Indian) Languages

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Summary: To avoid the pitfalls of invasionist hypotheses to explain language changes, a Proto-Vedic Continuity Theory for Bharatiya languages is postulated. This will be tested on the Indo- in the Indo-European, that is Bharatiya (Indian) languages, which are clubbed in the hyphenated compound, 'Indo-European' languages.

Bharatam janam is the phrase used by vis'vamitra gathina in the Rigveda. The objective of this monograph is to study the languages of bharatam janam in a historical and cultural perspective. The Rig Veda is such a profound document that many centuries of evolution of language should have occurred before the Vedic mantra-s were perceived (dras.t.a). It is, therefore, suggested that there was a Proto-Vedic language which needs to be unraveled through language studies.

The authors submit that it should be possible to delineate the languages/dialects spoken by bharatam janam from Proto-Vedic times. This will be attempted by denying the usefulness of methods used by Indo-European Linguistics (IEL) that are unfalsifiable, ideologically driven conjectures. . Was Proto Indo European ever spoken? Who knows? This is an unfalsifiable statement in IEL. Many unfalsifiable statements found among proponents and supporters of IEL are presented as quotable quotes in this monograph. An array of genetic-language relationship studies from mostly genetic journals to highlight the slippery nature of the attempts being made to match a scientific, genetic discipline with unfalsifiable categorizations provided by IEL studies. Many IEL assumptions are treated as "evidence" in these articles appearing in "scientific" journals.

The monograph is organized in two parts and the following sections, highlighting the limitations of IEL and the imperative of study of evolution of Bharatiya languages now spoken by more than one billion people living in Bharat, that is India.

Part 1: Limitations of Indo-European Linguistics

1. 'Love' of Sanskrit as a camouflage for evangelism
2. Unfalsifiable Teach Yourself PIE
3. Indeterminate laryngeals
4. Aryan race ideology
5. Eurocentrism
6. A fading discipline hangs on to slippery genes

Part 2: Bharatiya Language Studies

7. Studies needed to delineate the Indo- in Indo-European
8. Study of Prakrits from Paleolithic times
9. The Proto-Vedic Continiuty Theory of Bharatiya Languages

Appendix 1 provides a dialectic on How to study bhasha? S'abda as Brahman in bharatiya tradition of language studies (s'iksha).

Appendix 2 discusses concordances between Post-Vedic and Avestan. The Annex provides detail examples of concordances between Vedic and Avestan.

[The term Bhartiya as used in this monograph refers to people of 'Greater India' comprising the modern nations of Pakistan, India, Nepal, Bangaldesh, Bhutan and S'rilanka; language contacts evidenced in Afghanistan, Iran, Mesopotamia and in Indian Ocean Rim states (for e.g., Burma, Cambodia, Laos, Vietnam, Malaysia, Indonesia, Thailand).]

# Part 1: Limitations of Indo-European Linguistics

## Section 1: Love of Sanskrit as a Camouflage for Evangelism

Livingston (2002) quoting (Drews 1988) describes how linguistic studies eventually acquired a racial color. "It is an unfortunate coincidence that studies of the Indo European language community flourished at a time when nationalism, and a tendency to see history in racial terms, was on the rise in Europe. There was no blinking the fact, in the nineteenth century, that most of the world was dominated by Europeans or people of European descent. The easiest explanation for this was that Europeans, or at least most members of the European family, were genetically superior to people of darker complexion. It was thus a welcome discovery that the ancient Greeks and the Persians were linguistically, and therefore one could assume biologically, "related" to the modern Europeans. The same racial stock, it appeared had been in control of the world since Cyrus conquered Babylon. This stock was obviously the white race. India, it is true, presented a problem, and required a separate explanation. Aryans had invaded India no later than in the second millennium BC, and successfully imposed their language on the aboriginal population, but the Aryan race had evidently become sterile in that southern clime and was eventually submerged by the aboriginal and inferior stock of the subcontinent. (emphasis added, Drews 1988 in Livingston 2002, p. 8; Livingston, David, 2002, The Dying God: The Hidden History of the Western Civilization, New York: Writers Club Press.)

Mario Alinei, professor emeritus of University of Utrecht, echoing sentiments similar to those of Drews cited by Livingston, makes the following observations while contesting the invasionist models used in Indo-European Linguistics to explain language evolution from Paleolithic times: "As is known, until recently the received doctrine for the origins of Indo-Europeans (IE) in Europe was centered upon the idea - now called the 'myth' (Häusler 2003) - of an Indo-European Invasion in the Copper Age (IV millennium B.C.), by horse-riding warrior pastoralists… Many recent studies have shown that the foundation of scientific IE research in the $19^{th}$-century was deeply influenced by the contemporary Arian, Pan-Germanic and colonialist ideology, as first expounded in Count Joseph-Arthur De Gobineau's, Essai sur l'inégalité des races humaines (1853-1855) and Houston Stewart Chamberlain's, Die Grundlagen des XIX Jahrhunderts (1899), with their emphasis on Indo-Europeans racial superiority and their inclination to war and conquest (e.g. Poliakov 1974, Römer 1985, Trigger 1989, Renfrew 1987 etc.). Here is, for example, how Adolphe Pictet, the founder of the so called Linguistic Paleontology, in his book Les origines des Indo-européennes ou les

Aryas primitif. Essai de paléontologie linguistique, Paris, 1859-63, described the "Arian race": «a race destined by the Providence to dominate the whole world… Privileged among all other races for the beauty of its blood, and for the gifts of its intelligence,… this fertile race has worked to create for itself, as a means for its development, a language which is admirable for its richness, its power, its harmony and perfection of forms». In short, the first IE specialists – imbued with European colonialism of the 19th century - chose to see the Proto-Indo-Europeans as a superior race of warriors and colonizers, who would have conquered the allegedly "pre-IE" Neolithic Europe in the Copper Age, and brought their 'superior' civilization to it. Moreover, since it was necessary for the Indo-European warriors to have weapons and horses, also the choice of the Copper Age was obligatory, because this was the context of Battle Axes, metallurgy and horse riding. At the same time, while the concept of the Arian super-race gave shape to the myth of the Battle-Axe horse-riding invaders, another myth, within the Arian larger myth, emerged: Pangermanism. Within the Arian superior race, the German father-founders of IE studies saw the Germanic people as the supermen, the purest and the closest to the original blessed race, and chose the Germanic area as the Urheimat of the Proto-Indo-Europeans. After WW2, with the end of Nazi ideology, a new variant of the traditional scenario, which soon became the new canonic IE theory, was introduced by Marija Gimbutas, an ardent Baltic nationalist: the PIE Battle-Axe super-warriors were best represented by Baltic élites, instead of Germanic ones (Gimbutas 1970, 1973, 1977, 1979, 1980). Interestingly, also the central idea of the NDT (Neolithic Discontinuity Theory of Renfrew), namely that the inventors of farming were the Indo-Europeans, rather than the 'real' Middle-Eastern, Sumerian and/or Semitic, people, is yet another vein of this often unwitting ethnocentrism that runs through the history of research on IE origins. "

http://www.continuitas.com/intro.html

That this ethnocentrism was not unwitting, but could have been motivated by spreading of the Gospel (also known as proselytization or evangelism) is revealed by the true portrayal of a person who is termed the father of Indo-European Linguistics, William Jones. William Jones' third discourse published in 1798 with the famed "philologer" passage is often cited as the beginning of comparative linguistics and Indo-European studies. Indo-European is a family of languages that by 1000 BC were hypothesised as spoken throughout Europe and in parts of southwestern and southern Asia.This is his quote, claiming to establish a



"tremendous" find in the history of linguistics:

“The Sanscrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have spring from some common source, which, perhaps, no longer exists.” (Sir William Jones, Supreme Court Judge of the British East India Company, 1786, Singer 1972, 29).. . .
http://www.absoluteastronomy.com/encyclopedia/w/wi/william_jones_(philologist).htm

On 27 April 1794 Jones died at Calcutta in the forty-eighth year of his age, and was buried there... the directors of the East India Company showed their sense of his services by the erection of a monument to him in St. Paul's Cathedral. His wife also placed a monument to his memory, executed by Flaxman (1796-1798), in the ante- chapel of University College, Oxford.http://www.eliohs.unifi.it/testi/700/jones/Jones_DNB_article.html

Let us take a look at this Oxford memorial monument.Why is Jones shown in a skull-cap of the type worn by a Pope?
http://news.bbc.co.uk/media/images/39919000/jpg/_39919010_pope-afp-300x220.jpg To justify the depiction of the marble frieze in a chapel?

Arindam Chakrabarti, Professor of Philosophy, University of Hawaii, brought to Rajiv Malhotra's attention a colonial wall carving in Oxford which blatantly boasts of the intellectual conquest of Sanskrit by the British.

There is a monument to Sir William Jones, the great eighteenth- century British Orientalist, in the chapel of University College, Oxford. This marble frieze shows Sir William sitting on a chair writing something down on a desk while three Indian traditional scholars squatting in front of him are either interpreting a text or contemplating or reflecting on some problem.

It is well known that for years Jones sat at the feet of learned pandits in India to take lessons in Sanskrit grammar, poetics, logic, jurisprudence, and metaphysics. He wrote letters home about how fascinating and yet how complex and demanding was his new learning of these old materials. But this sculpture shows – quite realistically – the Brahmins sitting down below on the floor, slightly crouching and bare-bodied – with no writing implements in their hands (for they knew by heart most of what they were teaching and did not need notes or printed texts!) while the overdressed Jones sits imperiously on a chair writing something at a table. The inscription below hails Jones as the "Justinian of India" because he "formed" a digest of Hindu and Mohammedan laws. The truth is that he translated and interpreted into English a tiny tip of the massive iceberg of ancient Indian Dharmashastra literature along with some Islamic law books. Yet the monument says and shows Jones to be the "law-giver," and the "native informer" to be the "receiver of knowledge."

What this amply illustrates is that the semiotics of colonial encounters have – perhaps indelibly – inscribed a profound asymmetry of epistemic prestige upon any future East-West exchange of knowledge. (Arindam Chakrabarti, "Introduction," Philosophy East & West Volume 51, Number 4 October 2001 449-451.) http://muse.jhu.edu/cgi-bin/access.cgi?uri=/journals/philosophy_east_and_west/v051/51.4chakrabarti.pdf&sessio

n=41460552

See also: Teltscher;and Kate, 1995, India Inscribed : European And British Writing On India 1600 – 1800, Figure 6. Memorial to Sir William Jones by John Flaxman (1796-8), University College, Oxford. 203, New Delhi, Oxford University Press.

It took Rajiv Malhotra nearly two years to locate the marble frieze in a chapel at Oxford, which he had to personally visit to see and then to go through a bureaucratic quagmire to get the picture of it. Rajiv Malhotra notes: [quote] The picture symbolizes how academic Indians today often remain under the glass ceiling as "native informants" of the Westerners. Yet in 19th century Europe, Sanskrit was held in great awe and respect, even while the natives of India were held in contempt or at best in a patronizing manner as children to be raised into their master's advanced "civilization." [unquote]
http://www.justindian.com/expressions/column.asp?cid=306016

Is the display in the chapel of the University College, Oxford a true depiction of William Jones in his true colours – as an evangelist? [quote] The Bible Is a Wonderful Book because of its literary characteristics. It contains the highest literature of the world. It appeals to the aesthetic and intellectual as well as moral and spiritual faculties... Sir William Jones sums it all up in the following beautiful eulogy: "The Scriptures contain, independently of a divine origin, more true sublimity, more exquisite beauty, purer morality, more important history, and finer strains both of poetry and eloquence, than could be collected, within the same compass, from all other books that were ever composed in any age or in any idiom." [unquote] http://www.mun.ca/rels/restmov/texts/zsweeney/ntc2/NTC217.HTM

In the face of this monument, Jones' eulogy on Sanskrit sounds hollow. Maybe, the scholars who participated in conferences held in Calcutta and Pune in April, 1994 to mark the bicentenary of his death did not know that this eulogy was only a camouflage for the depiction of a supreme court judge sitting on a high chair and three Indian scholars sitting at his feet. The eulogy of Sanskrit didn't last long in the eurocentric studies called IE linguistics with the invention of a hypothetical PIE with *.

The authorities of University College, Oxford should: 1) apologise to Indians for this gross, humiliating, insulting representation of Indian scholars, on a monument displayed on the walls of the College chapel; and 2) remove the offending marble frieze from display.

A photograph of the marble frieze is at:
http://pg.photos.yahoo.com/ph/kalyan97/detail?.dir=57ce&.dnm=e3ad.jpg&
.src=ph

http://groups.yahoo.com/group/IndianCivilization/message/77765

Another scholar of Sanskrit, Max Muller, had mixed motives in studying the language.
http://www.hindunet.org/srh_home/1997_2/0088.html

"In a letter to his wife Max Muller wrote: "I hope 1 shall finish that work and 1 feel convinced, though 1 shall not live to see it, yet, this edition of mine and the translation of the Veda, will hereafter tellto a great extent on the fate of India and on the growth of millions of

sou= ls in that country. It is the root of their religion and to show them what the root is, I feel sure, is the only way of uprooting all that sprung from it during the last 3000 years."

## Section 2: Unfalsifiable Teach Yourself Proto-Indo-European

Many scholars aver that IEL is an ideology, rather than a science. (cf. PCT workgroup of historians and linguists http://www.continuitas.com/workgroup.html)

The nature of theories postulated by IEL as unfalsifiable can be best explained by an IE tale constructed by August Schleicher. It has to be article of faith to accept the suggested version, in the absence of any stratigraphically attested and dated epigraph or manuscripts of pre-glacial times from archaeological sites in Europe that this in fact can be deduced as the spoken version of IE sometime in pre-histor times.

Karl Popper noted that science advances by deductive falsification through a process of 'conjectures and refutations'. http://www.friesian.com/popper.htm According to Popper, "The criterion of falsifiability … says that statements or systems of statements, in order to be ranked as scientific, must be capable of conflicting with possible, or conceivable, observations."
http://www.freethought-web.org/ctrl/popper_falsification.html Using this principle, Popper claimed that Freud's theory of unconscious was not falsifiable and hence, unscientific.

Similar reasoning can be adduced to claim that IEL is not falsifiable and hence, unscientific. The claims made so far by proponents of IEL are such that they do not admit consideration of the possibility of the ir being false. An example cited is this: The proposition "All crows are black" would be falsified by observing one white crow. As noted in the critique detailing the limitation of IEL, many observations have been recorded which would falsify the existence of a reconstructed PIE (Proto-Indo-European).

The IE tale of August Schleicher, Avis Akvasas ka (spelled variously as IEL degenerated and surprise! translated into English) means literally: 'sheep horses and'. There is another group of tales called 'Mommy Goddess'tales of Marija Gimbutas.

* One interesting linguistic novelty that nobody seems to have bothered to write is some simple textbook of it, perhaps to be called "Teach Yourself Proto-Indo-European" (title inspired by the numerous "Teach Yourself <language>" books).

However, there are a range of pitfalls:

Pronunciation uncertainties: We don't know for sure exactly how PIE was pronounced, and some linguists even dismiss this sort of question as irrelevant.

Vocabulary incompleteness: We don't have complete recovery of the vocabulary. Some words, like "lightning", tend to suffer numerous replacements, so while the PIE speakers must have had a word for it, we may never know what it was.

Semantic uncertainties: Some of the reconstructed roots are listed as having rather vague meanings; this is because the descendants of some roots have rather variable semantics.

Grammatical uncertainties:.

Independent innovations:

Dialect variations:. There is no good reason to believe that PIE was a homogeneous language. It may have been more like a continuum of dialects, where innovations can spread in waves (compare the early history of the Germanic languages for a similar example). Dialect variations can also contribute to the previous pitfalls. So one might have to settle for some sort of "consensus" dialect.

* Schleicher's Fable:

[This is taken from the version in Jared Diamond's The Third Chimpanzee : The Evolution and Future of the Human Animal, 1992, Harper Collins, though with a bit of re-spelling]

Owis Ek'wooskwe

Gwrreei owis, kwesyo wl@naa ne eest, ek'woons espeket, oinom ghe gwrrum woghom weghontm, oinomkwe megam bhorom, oinomkwe ghmmenm ooku bherontm.

Owis nu ek'womos ewewkwet: "Keer aghnutoi moi ek'woons agontm nerm widntei".

Ek'woos tu ewewkwont: "Kludhi, owei, keer ghe aghnutoi nsmei widntmos: neer, potis, owioom r wl@naam sebhi gwhermom westrom kwrnneuti. Neghi owioom wl@naa esti".

Tod kekluwoos owis agrom ebhuget.

[The] Sheep and [the] Horses

On [a] hill, [a] sheep that had no wool saw horses, one [of them] pulling [a] heavy wagon, one carrying [a] big load, and one carrying [a] man quickly.

[The] sheep said to [the] horses: "[My] heart pains me, seeing [a] man driving horses".

[The] horses said: "Listen, sheep, our hearts pain us when we see [this]: [a] man, [the] master, makes [the] wool of [the] sheep into [a] warm garment for himself. And [the] sheep has no wool".

Having heard this, [the] sheep fled into [the] plain.

[Here, @ = schwa, the "uh" sound, usually represented by an upside-down e; also, long vowels are written double]
...
Gimbutas, Marija, _The Journal of Indo-European Studies_ (several articles over the years) and _The Civilization of the Goddess_ -- An abundance of work on the archeology of the Kurgans (she was the first to propose the Kurgan -- IE link), as well as reconstructions of their culture. She has also come up with some speculative proposals about the culture of the pre-IE peoples of Europe, proposals that some critics have derided as "Mommy Goddess" tales.

http://homepage.mac.com/lpetrich/www/writings/NostraticRefs.txt

See also the Jan-July 2005 thread at http://www.proz.com/topic/28279?start=0

http://www.lankalibrary.com/books/sinhala3.htm (a new version of Schleicher's Proto-IE tale)

Here is a PIE version:

Gwrhéei hówis, qésyo wlhnéh ne est, hécwons spécet, hoinom kke gwrhúm wóccom wéccontm, hoinom-qe méghm ppórom, hoinom-qe ccménm hóocu ppérontm.

Hówis tu hecwoippos weuqét: "Céer hekknutór moi, hécwons héjontm hnérm widntéi".

Hécwoos tu weuqónt: "Cluttí, hówei, céer kke hekknutór nsméi widntppós: hnéer, pótis, héwyom r wlhnéhm seppi qrnéuti nu qqérmom wéstrom; nécci héwyom wlhnéh hésti".

Tód cecluwóos hówis héjrom ppugét.

http://www.grsampson.net/Q_PIE.html

Here's another text... The king and the god. I found it in two different places that offered texts in reconstructed proto-Indo-European. For the most part, I followed the version in Geoffrey Sampson's PIE FAQ, replacing the old Indic god "Varuna" with "Enäron", since that's the oldest reconstructed god name on Almea. I usually had difficulties finding a word for "pray", but on the whole, this text was easier to translate than Schleicher's tale. Enjoy!

Filipo Petrei Lebdaney

English

Once there was a king. He was childless. The king wanted a son. He asked his priest: "May a son be born to me!" The priest said to the king: "Pray to the god Enäron." The king approached the god Enäron. He prayed to the god. "Hear me, father Enäron!" The god Enäron came down from heaven. "What do you want?" "I want a son." "Let this be so," said the bright god Enäron. The king's wife bore a son.

Proto-Eastern
Long vowels = a: e: i: o: u:

Ano:r esay, ghayu dit [not] mu:. Ano:r med [wanted]. Fewitay [priest]: "Meds sewnu nemet!" [priest] ano:rnu fewitay: "Fewitemewis nu:minu Enda:nornu." Ano:r Enda:nornu kta:nay. "Etu oghemewus, pi:dor Enda:nor!" Nu:miu Enda:nor kiwaltu kta:nay. "Ghayu [want]?" "Med [want]." "Esemes," nu:miu ulis fewitay. Ghi:ra ano:rex med ghetway.

http://shavian.org/verdurian/board/board47.html

http://groups.yahoo.com/group/IndianCivilization/message/78658

**Section 2.1: The arbitrary and biased nature of PIE reconstruction**

Here is how PIE reconstruction works, as explained by McWhorter (2001, p. 45-46). He gives seven IE cognates for the word "sister-in-law".

Sanskrit: snusha Greek: nuos

Old English: snoru Armenian: nu

Russian: snokha Albenian: nuse

Latin: nurus

In Armenian and Albenian the word actually means bride not sister-in-law. He explains this phenomenon as an example of semantic change.

The PIE word is reconstructed as follows:

1. The word should begin with sn rather than n. The missing s in the languages has been lost due to attrition.

2. The first vowel must be u rather than an o. Russian and Old English have muted that to an o. The majority rule applies here. So so far the proto word is *snu

3. The next consonant should be an s as shown in Sanskrit, Albenian and Greek. S has mutated to a k in Russian and r in Latin and Old English. Therefore, *snus

4. So far so good. The most twisted part is the ending. The majority of the above seven words have a masculine ending except for Sansrkit and Russian. So the original PIE word MUST be masculine! and end with an os rather than an "a" a feminine ending, as it does CORRECTLY in Sanskrit and Russian. Therefore PIE *snusos. Science does not work by the rule of the majority.

The IE linguists FORCE corruption on Sanskrit, the language of the sacred texts which are known to have been preserved for at least 3500 years. Ironically IE linguistics would not even be possible without the Vedas.

**Section 2.2.: Controversies surrounding the reconstruction of PIE**

“Many points of controversy surround the reconstruction of PIE, and indeed surround any reconstruction effort. Some are methodological questions (for example, how do we distinguish archaisms from innovations?); some are philosophical (for example, what kinds of evidence are admissible in reconstruction?); some are simply differences of opinion based on the preconceptions and orientation of the investigator (for example, which is more archaic, Hittite or Sanskrit?),” (Baldi 1983, p. 14-15, parentheses in the original).

The above paragraph neatly summarizes the totally arbitrary and subjective nature of PIE reconstruction. The archaism/innovation gimmick is most useful to justify ideologically

driven theories. Features shared by Greek, Albanian, and IIr are classified as archaisms to keep the languages of Europeans and non-Europeans apart into separate "singleton families." The supposedly older Hittite texts are used to arrive at a late date the RV when in fact there is no objective way to judge which of the two languages is older.

# Section 3: Indeterminate Layrngeals

**Section 3.1: The "discovery" of laryngeals**

The discovery of laryngeals in Hittite manuscripts are said to authenticate Saussure's conjecture about such laryngeals in IE and often cited as an evidence of IEL as 'science'.

"Here's my (Ulric_von_Bek's) two cents on the laryngeal issue. The reconstruction of three laryngeals rests more on theory than evidence. Hittite only has one laryngeal. It's supposedly from a merger of H2 and H3, with H1 disappearing, but there are numerous words in which this doesn't work (e.g. mehur is cognate with words containing a long e which suggests the -h- is from H1). This odd behavior has led some linguists to propose H4 which behaves exactly like H1 except it's preserved in Hittite. Other linguists have tried to solve the problems by hypothesizing H5 and H6 (and sometimes even more). I think we're better off just assuming one, which is plain old /h/, which doesn't have any coloring effects. The chief witness for this h will be Hittite, but there is some evidence for them from Armenian and Indo-Aryan (h- is sometimes preserved word initially in Armenian, and forms at least some of the voiceless aspirates found in Indo-Aryan)." [Ulric_von_Bek on Somskwertos@..., 3/6/2005 retrieved on 7/15/05]

**Section 3.2: Why laryngeals?**

The purpose of the laryngeals is to prenvent the linking of the IE family with other language familes. Saussure's laryngeals theory was dismissed as eccentric; "but for a long time, his (Saussure's) ideas were considered by many as not much more than an eccentric game of abstract symbols (Deutscher 2005, p. 105)." Things changed dramatically when Hittite was decipered as an "Indo-European" language more than fifty years later. A European homeland for the IE languages could only be maintained by introducing the laryngeal sounds in the PIE itself. The other option would have been to admit what Patrick Ryan has theorized in the following quote.

http://geocities.com/proto-language/c-AFRASIAN-3_germanic.htm

"What is additionally very interesting is to be able to see that wherever modern IE theorists have posited "laryngeals" (better 'pharyngal-laryngals'), pharyngals and laryngals show up in Semitic languages. Any pharyngal/laryngal "colored" the IE vowel based on the vocalic quality of the earlier pre-Pontic/Nostratic syllable: HA, from any of ?/H/¿/HH+A became H2V; HO became H3V; HE became H4V (except ¿E, which had already become Y). H 1 could have any one of the three "colorings", and is only justified as a notation because of its different reflex (0) in Hittite, and will not be employed here. Any of the pharyngal/laryngals except (the former pharyngal) Y could also lengthen the IE vowel.

"It is hard to escape the conclusion that the non-Germanic/Armenian branches remained together with the Afrasian branch after the other speakers of IE had dispersed; and that they

shared common developments (until circa 15K BPE) with the exception of reflexes to the inherited Nostratic voiceless aspirated affricates (but cf. Ossetic), and the special responses to velarized apicals (with only minor discrepancies in the spirants) (Deutscher, 2005)." We have to relate these laryngeal assumptions to the phonetics in bharatiya tradition, starting with the phonemic structures of mahes'vara_n.i sutra of Panini.

# Section 4: Aryan Race Ideology

### Section 4.1: The Invention of the Aryan race

The Europeans invented the notion of an Aryan race to counter the Jewish mystic tradition known as the Kabbalah or (Quabbalah) which scholars believe is in turn a rehash of older Babylonian, Persian , Indian Greek and Celtic stories. The Kabbalah holds that just before the Great Flood secret wisdom was taught by the Sons of God who descended from the heavens and intermarried the descendents of Cain. The Kabbalah subscribes to the notion of a superior or a root race which received this divine wisdom. In the prevalent anti Semitic environment, the European occultist thought this to be a great embarrassment that this superior race was not them but the Jewish people. William Jones' (1783) pronouncement of the relationship between languages of Europe and India came at the most opportune time. If there was a proto language then there must be a proto race who spoke this proto language, the "Aryans." The Aryan race was offered as the European answer for Kabbalah. According to Robert Drews (1988)

"Nevertheless fueled by an obstinate nationalism , Europeans denied their essential absence from history , and by grossly misrepresenting the facts, artistically created an ancient past, placing themselves far back in time, as far back as the beginning of human history and in the ranks of the great civilizations," (Livingston 2002, p. xi). Such ideas are commonplace even today even though the rhetoric is much milder.

Geneticist Olson on the "Caucasian" features of some Indians: "Consider the people of India. Physical anthropologists traditionally have classfiedIndians as "Caucasians," a term invented in the eighteenth century to describe people with a particular set of facial features. But this classification has never sat particularly well with some Europeans, who were offended by being lumped with the dark-skinned people of the (Indian) subcontinent. Gradually a kind of folk explanation emerged, which held that several thousand years ago (1500 B.C.)India was overrun by invaders from Europe (aka the AIT!).

These light skinned warriors (aka the chariot riding "Aryans.") interbred with the existing dark-skinned populations (or the "dasyus") that the Indians acqired European features (and the "IE languages").

Recent studies of mitochondrial DNA and the Y chromosome have revealed a different picture. Incursions of people from Europe into India have certainly occurred, but they have been less extensive than supposed, and genes have flowed in the opposite direction as well (meaning no support for the AIT and support for the OIT). The physical resemblance of Europeans to Indians appears instead to have resulted largely from their common descent from the modern humans who left Afica for Eurasia (p. 160-161), all parantheses added)." (Olson, Steve, 2002, Mapping Human History: Discovering the Past Through Our Genes, Boston, New York: Houghton Mifflin Company.)

### Section 4.2: John V. Day on the "Proto Indo-Iranians"

John V. Day (2001) complains about the harassment of "intellectuals" such as Professor Wolfram Nagel of Berlin University in Germany.

http://theoccidentalquarterly.com/vol2no3/jvd-europeans.html

"The racial origins of the Proto-Indo-Europeans are, like race and IQ or race and crime, a red-hot subject. Take the case of Professor Wolfram Nagel of Berlin University, who in 1987 argued in the journal of the German Oriental Society that Proto-Indo-Europeans must have been racially northern European.[5] He didn't say they were a master race or destined to conquer the world, just that they were northern European. Although Professor Nagel had reached the top of his profession, his reasoned arguments based on ancient texts and artworks so appalled the learned society that they fired the journal's editors and debated whether to expel him (although in the event they allowed him to stay). This incident offers an insight into the totalitarian climate that intellectuals work under in "democratic" Germany."

He then makes the following comments about the "proto-Iranians" and the "proto Indians"

"Turning to Iranians, I remarked earlier that speakers of Indo-European's so-called "Iranian" branch must have lived on the steppe before infiltrating southward to Iran, where non-Indo-European Elamites already had a civilization. Now, Greek and Roman writers in the centuries before and after Christ stated that Iranian-speaking peoples north of the Black Sea and Caspian had fair or reddish hair and blue eyes"

"In India, the earliest known Indo-European text, coming from the later second millennium B.C., is the religious work, the *Rig-Veda*.[30] Only one god in the *Rig-Veda* has anything like a human pigmentation, and he is the great warrior-god Indra. In personality and attributes, Indra resembles the Germanic god Thor, and even his fair hair and beard resemble Thor's red beard.[31] Throughout the *Rig-Veda*, Indra often helps the warlike Aryans—the Indo-European invaders of India—to battle against the native Dasas and Dasyus, who are portrayed as dark-skinned. In contrast, the *Rig-Veda* refers to Aryans as white and having an "Aryan color."

# Section 5: Eurocentrism

http://ist-socrates.berkeley.edu/~garrett/BLS1999.pdf

If Garrett is right then there is no point in tracing the journey of the speakers of proto-Italic, proto-Greek and proto-Indo-Iranian etc from a putative "homeland," to their historical locations. He also provides a surprisingly frank admission of ideology. "It is a truism that the discovery of Indo-European and the foundation of the academic discipline of linguistics were substantially fuelled by nationalism. I suggest that the nationalist ideologies lurking behind our field refract the same sociological forces that shaped its object of study. Our conception of Indo-European emerged from the analysis of national literatures and cultural traditions, and the canonical branches of the family emerged through the creation of national identities."

http://www.continuitas.com/monthly.html

The second review by Jonathan Morris notes: "Alinei considers that their motivations are ideological and ultimately traceable to the 17th century Biblical belief in catastrophes, overlaid by a 19th century belief in Aryan supremacy which created the myth of an Indo-European people that sprung up in fully civilized form and a pre-Indo-European populations akin to the 'damned pre-diluvians (Morris 2005, p.2)."

**Section 5.1: Diffusionist scholarship and the Aryan Invasion Theory**

Diffusionist scholarship is based on the premise that the world is divided into an Inside and an Outside. The Inside is inherently rational, inventive, scientific and progressive. The Outside on the contrary is imitative, irrational, prone to superstitious thoughts, and stagnated. All good things such as agriculture, industrialization, language, culture are generated within this superior Inside and then diffuse through out the inferior Outside. Blaut (1993) argues that "**all scholarship is diffusionist** insofar as it axiomatically accepts the Inside-Outside model, the notion that the world as a whole has one permanent center from which-culture-changing ideas tend to originate, and a vast periphery that changes as a result (mainly) of diffusion from that single center (p. 13, emphasis in the original)."

The Aryan Invasion Theory is a special case of diffusionist scholarship where the fictional "Aryan Homeland" is presumed to be the cradle from which the rest of Eurasia obtained its high civilization in the pre-Christian era. An imaginary people sprang out of this "homeland" equipped with a well developed language, horse riding skills, and an advanced weapons technology. These are mere beliefs not corroborated by any actual evidence. For example the belief that iron plows were brought in to the Middle East by invading Indo-European speakers around 1800 BCE is based on the "now discredited 'Aryan migrations" theory (Blaut 1993, p. 88)."

Diffusionist scholarship derives directly from Biblical monotheism in which a vengeful partial and presumably male "deity" reveals the only true religion to a select few, while condemning the rest of humanity to eternal hell less they meekly submit to formers total authority.

**Section 5.2: The Indo-European Linguists are guilty of ideology of colonialism**

"For the invasion model was first advanced in the nineteenth century when archaeology and related sciences were dominated by the ideology of colonialism, as recent historical research has shown. The successive generation of linguists and archaeologists has been strongly inspired by the racist views that stemmed after colonialism. Historians of archaeology (e.g. Daniel 1962, Trigger 1989) have repeatedly shown the importance of ideology in shaping archaeological theories as well as the theory of human origins, while unfortunately linguistics has not followed the same course and thus strongly believe in its own innocence. (Alinei, 1998)"

http://www.continuitas.com/invasionless.pdf

Incidentally, the traditional theory is not at all free from nationalistic biases. We quote Alinei once again: "After WW2, with the end of Nazi ideology, a new variant of the traditional

scenario, which soon became the new canonic IE theory, was introduced by Marija Gimbutas, an ardent Baltic nationalist: the PIE Battle-Axe super-warriors were best represented by Baltic élites, instead of Germanic ones (Gimbutas 1970, 1973, 1977, 1979, 1980)."

An interesting article on geo-linguistics from Mario Alinei that relates ancient tools with language development is at http://www.rastko.org.yu/filologija/alinei/malinei-lithic-linguistic.html

The three types of languages isolating, inflecting and agglutinative are associated with the three types of tools chopper, bifacial, flake/blade.

"From Schleicher [1848] on, the three types of language were put in a sort of evolutionary sequence, first from isolating, through agglutinative, to inflecting, in order to have 'our own' Indoeuropean at the apex of evolution (with the Eurocentric bias which was already typical of German research of the last century!); and then, more recently, and according to Trubetskoy [1939], from isolating, through inflecting, to agglutinative. The latter sequence is also the one we will have to adopt, as we shall see shortly."

If advanced tools are equated with advancements in language, then agglutinative languages are the most evolved. (Mario Alinei and Richard N. Frye, 2002, More on Archaeology and Language, in: Current Anthropology, volume 44 (2002), page 109).

Indo-European linguists (IEL) attempt to study the history of languages by reconstructing hypothetical words from cognates attested in real languages. For example, a hypothetical proto word *snusos meaning daughter-in-law has been reconstructed based on the following cognates attested in real languages (McWhorter 2001) – as discussed earlier:

Sanskrit: snusha, Greek: nuos
Old English: snoru, Armenian: nu
Russian: snokha Albanian: nuse
Latin: nurus

An entire language labeled as Proto-Indo-European (PIE) comprising only of such reconstructed words has been created in IEL studies. A relatively small community of people, located in a relatively small geographic area is supposed to have taken this hypothetical PIE language with them, when they supposedly invaded (or migrated or trickled-in, according to the revised versions of the theory) all across the vast Eurasian continent resulting in the present distribution of "Indo-European" languages. According to the "Aryan Invasion Theory", one such group of people labeled as "Aryans" brought some Indo-European languages to Iran, Afghanistan and South Asia presumably conquering the natives and imposing their language and culture on them.

No matter how rational and imperative the reconstructed language appears to be, there is no agreement among scholars as to exactly who these PIE speakers were, what they looked like, where and how long ago they lived, and most importantly, what compelled them to wander around aimlessly over many millennia. The search for the original "homeland" of these PIE speakers has been going on for nearly two centuries with no apparent end in sight.

Over seventy possible candidates for the putative homeland of the "Indo-Europeans" have been proposed, none of them acceptable to all the researchers (Alinei 1998). The search for the homeland has been tainted by ethnic and nationalistic biases prompting Demoule (1980, p.120) to quip, "we have seen that one primarily places the IE's (Indo-Europeans) in the north if one is German….in the east if one is Russian, and in the middle if, being Italian or Spanish, one has no chance of competing for the privilege (as quoted by Lal 2005, p.64)." According to Garrett (n.d.),

"It is a truism that the discovery of Indo-European and the foundation of the academic discipline of linguistics were substantially fuelled by nationalism. I suggest that the nationalist ideologies lurking behind our field refract the same sociological forces that shaped its object of study. Our conception of Indo-European emerged from the analysis of national literatures and cultural traditions, and the canonical branches of the family emerged through the creation of national identities."

IEL as a legitimate field of scholarly inquiry was launched in the hay day of imperialism. The results from comparative linguistics were quickly pressed into service by the colonizers to establish their alleged superiority over the colonized. Language was often equated with race ignoring the objections from the scholarly community. The emerging nations of Europe often identified themselves as a linguistic community, and they expected others to do the same. Hence India was and is still seen today by some as two nations speaking the so called "Aryan," and "Dravidian" languages united into a country only through the "efforts" of the European colonizers. The truth is that Indians speak languages belonging to six major linguistic families and as yet, no one knows for sure where on earth any of these families have might have originated and when.

The main obstacle in locating the homeland of PIE speakers could be the method of reconstruction itself. In the absence of written records one can only guess what certain words could have meant at certain points in time. Also, the rate at which languages change or "evolve" can only be guessed. Hooker (1999) summarized the problem thus:

"From a superficial point of view, it is an easy matter to arrive at the underlying lexicon common to the Indo-European people prior to their dispersal, then to predict the type of material culture which would have marked the Indo-Europeans, and finally to match this culture with one actually attested in the archaeological record. BUT NEITHER THE ASSUMPTION NOR THE METHOD IS ACCPETABLE. The assumption is false, since to construct a "protolexicon" takes insufficient account of LINGUISTIC, and especially SEMANTIC change: it is one thing to extract a basic vocabulary which might be thought common to the Indo-Europeans before their migrations; quite another to be sure that the items of this vocabulary has the same meaning throughout the 'Indo-European Era' that they bore in the historical language. But, even if these objections would be overcome, a set of lexical terms (which is a pure abstraction) cannot be transferred bodily to a material culture whose attributes are known only through the medium of archaeology. Some artifacts, some animals, some trees named in the proto lexicon will be present in a given culture but some will not. A satisfactory marriage between the linguistic and the archaeological data can never be achieved (page 49-50, emphasis added)."

Languages cannot exist without a group of real humans using them. There is no conclusive evidence to prove that languages evolve like living organisms do. A language could be

transferred without a corresponding transfer of genes and/or material culture. In the words of DeGraff (2001),

"Notions such as language birth, age, and death are also assumed implicitly and a-theoretically when we use terms such as"Proto-Indo-European", "Latin", "Old French", "Middle French", "Modern French", etc., as classificatory devices. But, notwithstanding the popularity and sophistication of Stammbaum theorie qua "Tree of Language" (cf. Darwin's Tree of Life), old vs. new linguistic species cannot be discriminated by any measure that looks like biological genetic criteria (e.g., DNA, interfertility). There is no clear notion whereby E-languages can be taken to reproduce like living organisms. Neither do we have clear linguistic-structural analogues for the DNA sequences that have now become so handy in tracing biological phylogenesis."

IEL and their cohorts in other linguistic discipline have been criticized for taking their reconstructions as facts and thus blurring the line between reality and illusion. "From the remarks of Saukkonen, Raukko and Östman Raukko and Östman I (Smit) conclude that they totally fail to understand the basic tenets of historical linguistics - first of all, that language history is something which has REALLY HAPPENED, not just determined by the eye of the beholder, and that it can be researched by using certain methods, that the aim of these methods is to uncover reality and that its results are no mere "theoretical or methodological constructs…."THIS CONFUSION TENDS TO MAKE HISTORICAL LINGUISTICS A MEANINGLESS, SPECULATIVE GAME in which the actual goal of any historical linguistics - uncovering REAL PAST LANGUAGE CHANGES - is no longer attainable (Smit 2001, emphasis added)."

**Section 5.3: Lord Macaulay's nightmare**

"I (Macaulay) have no knowledge of either Sanscrit or Arabic. But I have done what I could to form a correct estimate of their value. I have read translations of the most celebrated Arabic and Sanscrit works. I have conversed both here and at home with men distinguished by heir proficiency in the Eastern tongues. I am quite ready to take the Oriental learning at the valuation of the Oritentalists themselves. I have never found one of them who could deny that single shelf of a good European library was worth the whole native literature of India and Arabia. The intrinsic superiority of the Western literature is, indeed, fully admitted by those members of the Committee who support the oriental plan for education." Thomas Babington Macaulay (aged thirty-five), 1835. Minute of 2 February 1835 on Indian Education 1835 (reprinted in Young 1957; 721-4)."

Mr. Macaulay would have been greatly distressed to discover that his pristine Germanic family of languages has a mongrel ancestory.

See Fig 12 (p. 22) and section 6 (p. 22) of the link below

http://www.cs.rice.edu/~nakhleh/Papers/81.2nakhleh.pdf

and section 7.7 (p. 52) of the following study.

http://www.cs.rice.edu/~nakhleh/CPHL/RWT02.pdf

**Section 5.4: Sanskritist Nicholas Ostler sees the invading "Aryans" as light skinned**

"There is also some cultural evidence in the Rig Veda which suggests how the invading Aryans felt they differed from the peoples, the dasa and dasyu, their language came to dominate, for they same has having darker skins, 'black of origin, krsnayonih (Rig Veda, ii.20.7). This fits with the Sanskrit word used traditionally for the four-fold division into social castes, Brahman~Kshatriya~Vasiya~Sudra, namely varna, 'colour' (Ostler 2005, p. 197, 564)."

**Section 5.5: Archaeologist McIntosh succumbs to the IEL invasionist paradigm**

1. McIntosh agrees that the Indus Civilization should now be seen as the Indus-Saraswati Civilization (p. 24, 53). "But in Indus times, the Saraswati was a mighty river (p. 53). She cites Griffith's (1890) translations of the Rig Vedic hymns regarding the Saraswati River, as quoted by Possehl (1999).

2. McIntosh approvingly cites Dales (1964) who has mocked at Wheeler's 37 skeletons as proof that an "Aryan Invasion" had occurred (p, 178. 179).

3. The author draws upon Asko Parpola's work in connecting the Indus artifacts to the Vedas. Regarding the trefoils on the robe worn by the famous "Priest King" of the Indus, she says, " This robe was also mentioned in the Vedas as being worn by kings during their consecration. Parpola also argues that the trefoil could represent the three-lobed hearth, used not only in the home but also in Vedic sacrifices, and the Vulva or womb-the yoni symbol of the goddess Durga and counterpart to the lingam, symbol of Shiva (p. 108)."

4. The author acknowledges that the Indus people had knowledge of astronomy. "Asko Parpola and a number of other scholars relate this (the systematic arrangement of streets) to the astronomical knowledge of the Indus people and to the unknown (!)religious beliefs that must lie behind this (p. 99, parentheses added)."

5. The author discusses Parpola's interpretation of a famous Indus seal (color plate 10 in the book) as depicting goddess Durga, her husband Shiva and the wives of the seven sages who are also the seven stars of the Great bear (ref. 116-117).

6. The author admits that the discovery of fire alters which were probably used for Vedic sacrifices has been an embarrassment to the theory that the Indus civilization was pre-Vedic.

After all this, one would expect her to reach the logical conclusion that if it walks like a duck, talks like a duck, then.. It IS a duck. That is the Indus and the Vedic people are the same. But hold on a minute! McIntosh bows down the linguistic fables and fails to reach that rather obvious conclusion.

"Their (Vedic) literature shows that they moved gradually from the north, on the Iranian plateau, into the Panjab and hence farther into the subcontinent.. (p. 128, parenthesis added),"

"This (the linguistic) evidence seems to show that the speakers of the Indo-Aryan (also known as plain "Aryan") languages, a branch of the Indo-European language family that covered Europe, Iran and Northern India by the late 1st millennium BC entered the region in

the Indus region during the second millennium BC .. (p.128, first parenthesis added)."

"The migrations of Indo-Aryan speakers can be traced in their early literature the Vedas. The geographical information that they contain shows that the Indo-Aryans (who it is thought came organically from the area north of the Black and Caspian Seas) entered the northwest during the 2nd millennium BC and thence moved eastward into the Ganges Valley ... (p. 147)."

The author does not mention what this geographical information is and how it shows the so called movement from northwest to the east. One wonders what is so powerful about these highly speculative linguistic theories that grips even informed scholars to submit to them in favor of their scientifically testable methods.

The Proto-Vedic Continuity Theory rejects eurocentrism and will be validated based on the rich resources available for ancient versions of present-day languages and dialects spoken in Bharat and contiguous regions and Indian Ocean rim states. An attempt should also be made to expand on the substrate language terms found in Akkadian, terms such as sanga (priest), tibira (merchant) and evaluate the economic contacts which resulted in semantic expansions of Bharatiya languages because of such contacts during the early Neolithic times and early bronze age. Some leads are provided in Appendix 1: How to study bhasha?

# Section 6: A Fading Discipline Hangs on to Slippery Jeans (read: Genes)

During the last two decades, a number of genetic studies have appeared which make the invasionist models of IEL of questionable authenticity and point to a Paleolithic continuity in the evolution of languages, even assuming, while not conceding, that stock of people and languages spoken in 'Indo-Europe' area, are somehow correlated.

### Section 6.1: Genetic studies refuting Aryan Invasion propaganda

Reproduced below is the paper presented by Dr. Chandrakant Panse, Professor of Biotechnology, Newton, Massachusetts on Sept. 16, 2005 at the Human Empowerment Conference, Houston, Texas which debated the socio-political implications of Aryan Invasion Theory (AIT) in a session moderated by Dr. S. Kalyanaraman. This is a succinct overview of the genetic evidences which render the AIT into a propaganda, thus substantiating the nature of IEL as ideology, driven by colonial mindset, as discussed elsewhere in this monograph.

### DNA, genetics and population dynamics: debunking the Aryan Invasion Propaganda

Summary: The so-called Aryan invasion, an idea designed to divide the Hindus of Northern and Southern Bharat, was never supported by any concrete evidence and yet was elevated to the stature of a theory. It has been pushed in secondary school textbooks as a dogma. Science now conclusively rejects any notion of any Aryan invasion of the Indian subcontinent.

### I. Background

Study of changes (mutations, insertions) in chromosomal DNA is very difficult due to its magnitude. In humans, the egg contains 22 chromosomes plus the X sex chromosome, and the sperm has similar 22 plus either the X or the Y sex chromosome. An XX combination in the embryo ensues a female, and an XY a male. There are some 3 billion DNA base pairs in the 46 chromosomes in a human cell. Studying changes as markers in only the Y chromosome can be simpler, but traces only the male ancestry.

Cells contain mitochondria, structures where oxygen is utilized. A mitochondrion has its own DNA, only 16,569 base pairs long, and entirely independent of the chromosomal DNA. Following mutations in the mtDNA is thus significantly easier, but traces only female ancestry as the mitochondria are descendants of the egg, with no contribution from the sperm.

Attempts at linking of populations through insertions of repeat sequences are underway (1), but call for abundant caution because sampling errors, numbers of markers employed, choices of markers, statistical models selected for analysis, etc., influence the results of such studies (2). More importantly, polymorphism (different alleles, or slightly different forms of the same gene) subjected to local positive selection can result in convergent evolution, the reverse also holds true, and these can lead to abnormal conclusions regarding histories of populations (2). Attempts to demonstrate similarities amongst Asian and European gene pools not only suffer from such drawbacks in spite of vigorous statistical analysis, but also can be explained by multiple mechanisms (3).

## II. North & South Bharatiyas Share mtDNA, Which Is Distinct From That of Europeans

Extensive sequencing and statistical analysis of a part of mtDNA which has sustained mutations (the mitochondrial hypervariable region I, HVR I), from reasonable sample sizes, has shown that certain sequences dominant in Europe are uncommon in India, and when found, are almost equally divided amongst the North and South Indians. Conversely, there are sequences common to both the North and South Indians which are uncommon in Europe (4). These data have been used to estimate the time of diversion of the peoples of Europe and Asia in the Pleistocenic era (4), emphasizing that these are phylogenically different peoples (5).

## III. North & South Bharatiyas Share Tissue Antigens, Distinct From Those of Europeans

All diploid human cells express a set of proteins on their surfaces, HLA-A, B and C, which are unique to an individual. They are coded for in the major histocompatibility complex of genes (MHC class I) on chromosome 6. These are the proteins which are recognized as non-self by the immune system in transplant rejection, and are variously called transplant antigens, phynotypic markers, cell-surface markers, etc. All of these proteins in all persons have identical structures and functions, yet can be distinguished from others. Not all 6 class I antigens (3 each from paternal and maternal copies of chromosomes 6) may be unique to an individual; some are identical or similar. MHC class II proteins (DP, DQ, DR) are expressed by some immune system cells only, but may be even more polymorphic.

Analysis of the DNA sequences coding for the different forms of these proteins (alleles) demonstrate that while populations which are closely related, geographically or through known migrations, show similarities in their class I and II MHC antigens, the Asians and the Europeans are distinct, separate but equal, peoples.

Conclusion: The stark lack of similarities in the gene pools of the Indian subcontinent and Europe, vividly evident in the mtDNA and the MHC complex, destroys any Aryan invasion notions, and confirms the genetic uniformity of peoples of the Indian subcontinent.

Credits
I gratefully acknowledge research support from my dharmapatnee Dr. Ujwala Panse, professor of biochemistry, and our sukanya Kumaree Anjali Pansé. [Note: Footnotes are referenced at the end following Bibliography.]

The following paragraphs, present an array of genetic studies, principally available on the internet (URLs presented as titles), highlighting the slippery nature of linking linguistic assumptions (often cited as 'evidence') with genetic changes observed in select population samples.

**Section 6.2: A Review of some latest genetic studies.**

http://ces.iisc.ernet.in/hpg/cesmg/peopling.html

This study already assumes that linguistic migrations have occurred into India and is not indicative of a scientific approach. The authors have collected data only in India with express intent of proving these migrations, not to test a hypothesis. "The likely major migrations include (i) Austric language speakers soon after 65,000 ybp, probably from northeast (ii) Dravidian speakers around 6,000 ybp from mideast with the knowledge of cultivation of crops like wheat and domestication of animals like cattle, sheep, goats (iii) Indo-European speakers in several waves after 4000 ybp with control over horses and iron technology (iv) Sino-Tibetan speakers in several waves after 6000 ybp with knowledge of rice cultivation. "

"This is in conformity with the current view that modern Homo sapiens populations underwent a first expansion within Africa around 100 kybp, and a second expansion outside Africa around 65 kybp. The Homo sapiens peopling India are then a part of this second expansion around 65 kybp - an expansion that may have occurred in southern China [Ballinger et al., 1992] or in or close to the Indian subcontinent itself [Mountain et al 1995]. "

While not contributing anything new, the authors, in fact, agree with Oppenheimer that the expansion 65,000 years ago may have occurred in the Indian subcontinent,

"Gene analysis reveals people radiating out of the Middle East and the Orient" This section is just a regurgitation of Cavalli-Sforza.

"It is then very likely that Asian populations today represent two major radiations of people out of two centers of origin of cultivation, one in the middle-east. the other in China and Southeast Asia." If anything this proves Renfrew's Anatolian theory not the "mainstream" theory of IEL expansion from southern Russia."

It is reasonable to assume that speakers of these four language families represent at least four major lineages [Parpola, 1974]. The first question to ask is whether these language families developed within the country, or came in with migrations of people from outside the subcontinent. The geographical range of distribution of Austric, Indo-European and Sino-Tibetan speakers is extensive; India harbours only a minority of the languages within these families. The geographical range of distribution of Dravidian languages is however restricted largely to India; there are only two outlying populations - Brahui in Baluchistan and Elamic in Iran. Dravidian languages might then have developed within India, others are less likely to have done so, for we have no evidence of any major technological innovations that could have served to carry speakers of those languages outside India." The authors give themselves away in the preceding paragraph. They are assuming that hypothetical language families must correspond to real genetic lineages! And since most of the IEL are spoken outside India TODAY they could not have possibly originated in India! Why not?

http://www.genome.org/cgi/content/abstract/9/8/711

The above study has nothing to do with a migration of people around 1500 BCE into India. "Analysis of molecular variance revealed that there was significant haplotypic variation between castes and tribes, but nonsignificant variation amongr ranked caste clusters." The previous sentence just shows the endogamous nature of the varna system.

http://hpgl.stanford.edu/publications/AJHG_2003_v72_p313-332.pdf

This says the opposite of what the IEL sets out to prove about original homeland of speakers of IEL. "H, L, and R2 are the major Indian Y chromosomal haplogroups that occur both in caste and in tribal populations an are rarely found outside the subcontinent. Haplogroup R1a, previously associated with the putative Indo-Aryan invasion was found but also in relatively high frequencies in (26%) in the Chenchu tribe." So no evidence of a migration from Central Asia here, " This finding…..southern and western Asia (not Central Asia or Europe) might be the source of this haplography. "Taken together…have received limited gene flow since the Holocene."

http://www.biol.tsukuba.ac.jp/%7Emacer/chgp/chgp20.html

"there is evidence that Dravidian speakers, who included settled agriculturists, predominated both northern and southern India. During the period 1500 B.C. to about 1100 A.D., (Dravidian Harappa!!!) north-west and northern India turned into a melting pot. The year 1500 B.C. saw the entry of Indo-Aryan speakers from Bactria and Iran.. It takes a leap of faith to accept this as scientific rigour.

http://www.genome.org/cgi/reprint/13/10/2277

"the Dravidian tribals were possibly widespread before the arrival of Indo-European speaking nomads but retreated to southern India to avoid dominance." Dravidian harrapa once again! Cites the now rejected Bamashad (2001) study approvingly.

http://sophistikatedkids.com/turkic/40%20Language/TurkicAndIEsEn.htm

"This study shows that genetic distances between the European language families do not reflect their accepted linguistic relationships. If we group the language families by their linguistic origins, there should be a cluster of the Indo- European language families, Baltic and Slavic being most closely related, a separate branch for the Finnic and Ugric speakers, and separate coordinate branches for the Turkic, Semitic, and Basque language families. The genetic distances of some interphylum language-family pairs, such as those between Slavic and Ugric speakers, or between Turkic and Ugric speakers, however, are closer than some distances within a phylum, as between Greek and Celtic speakers or between Finnic and Ugric speakers. The low matrix correlation between genetics and language confirms the lack of agreement between presumed language phylogeny and the observed genetic distances."

http://content.karger.com/company/BookDay_2.pdf
http://content.karger.com/ProdukteDB/produkte.asp?Aktion=ShowFulltext&ProduktNr=\224224&Ausgabe=230394&ArtikelNr=80298#SA3>

"This particular haplotype (HG16) has been identified in all the Finno-Ugric-speaking populations, but also in the adjacent IE-speaking Lithuanian and Latvian populations [61]. From the point of view of a correlative analysis, such geographically close populations will cluster together genetically due to assumed admixture, **BUT MAY BE ARTICIALLY KEPT SEPARATE ON THE LINGUISTIC ANALYSIS DIE TO THE LINGUISTS OVERWHELMING DESIRE TO CREATE A FAMILIAL CLASSIFICATION** in which data subject to contact phenomena are excluded from the analysis or at best marginalized [65].(emphasis added)"

"Similarly, identification of autosomal gene frequency clines by the use of principle component analysis gives support of sorts to both a possible farming spread and a Kurgan-based origin for IE itself in that the 1st principal component is centered on the Middle East and supports the former while the 3rd is centered North of the Caspian Sea around the traditional homeland of the Kurgan expansion [20, 89]."

**DNA evidence points to an Indian homeland of "Indo-European family "of language**

In a trail blazing work prominent geneticist Stephan Oppenheimer has convincingly argued that all the non African peoples of the world have descended from the first Out of Africa Eve mtDNA strain known as L3 and the first Out of Africa Y chromosome line labeled as M168. Moreover, South Asia and in particular India has been a major location of flowering for L3 and M168 as they spread through out the rest of the world about 90,000 years before present. The story according to Oppenheimer (2003) is as follows. The African people carrying L3 and M168 left that continent across south Red sea across the southern part of the Arabian peninsula towards Pakistan and India. On the maternal side the mtDNA strain L3 split into two daughters which Oppenheimer labels Nasreen and Manju. While Manju was definitely born in India the birthplace of Nasreen is uncertain, tentatively placed by Oppenheimer in southern Iran or Baluchistan. Manju and Rohani (should be Rohini?), Nasreen's most prolific daughter both born in India are the progenitors of all non African peoples.

The story on the paternal side is a lot more complex. M168 had three sons, of which Seth was the most important one. Seth had five sons named by Oppenheimer as Jahangir, H, I, G and Krishnna. Krishnna born in India turned out to be the most prolific of Seth's sons. Krishnna through his son Ho, grandson Ruslan through Polo, and great grandson M17 through Ruslan,

played a major role in the peopling of South Asia, East Asia, Central Asia, Oceania and West Eurasia (see Appendix 2, p. 374-375 of Oppenheimer 2003). Oppenheimer (2003) has this to say about M17 and his father Ruslan:

"For me and for Toomas Kivisild, South Asia is logically the ultimate origin of M17 and his ancestors; and sure enough we find highest rates and greatest diversity of the M17 line in Pakistan, India, and eastern Iran, and low rates in the Caucasus. M17 is not only more diverse in South Asia than in Central Asia but diversity *characterizes* its presence in isolated tribal groups in the south, thus undermining any theory of M17 as a marker of a `male Aryan Invasion of India', (p. 152)."

"Study of the geographical distribution and the diversity of genetic branches and stems again suggests that Ruslan, along with his son M17, arose early in South Asia, somewhere near India, and subsequently spread not only south-east to Australia but also north, directly to Central Asia, before splitting east and west into Europe and East Asia (p. 153)." (Oppenheimer, Stephen (2003), "The Real Eve: Modern Man's Journey out of Africa," New York: Carroll and Graf Publishers.)

http://www.ias.ac.in/jgenet/Vol80No3/125.pdf

The first sentence reads "Linguistic evidence suggest that West Asia and Central Asia have been the two major geographical sources of GENES in the contemporary Indian gene pool. (emphasis added)." It is remarkable that conjectures of IEL are categorized as 'evidence' !

http://www.angelfire.com/country/veneti/SkuljRelationship.html

"The main feature of Indian society is caste and scholars speculate that something very like castes were in India even before the Aryan speakers entered India (Majumder 2001). Now, Geneticists have discovered that the upper castes are more similar to Europeans, particularly East Europeans, whereas lower castes are more similar to Asians. The higher the caste, the closer they are to East Europeans (Bamshad et. al., 2001). "

They site the very well known and rejected Bamshad study. "There are reasonable arguments to support the debate (Ghosh, 1988). However, in such debates the scholars do not consider the close linguistic relationship between Sanskrit, the language of the Aryans and the Slavic languages of Europe and also of the present day genetic relationship of Aryans on the Indian sub-continent and the Slavs of Europe." "In this paper, we will demonstrate the linguistic and genetic relationship between Aryans of the Indian sub-continent and Slavs of Europe." This is daring, but a failed enterprise, indeed.

http://www.ias.ac.in/jbiosci/nov2001/533.pdf

This one reads like a genuine scientific study until one encounters on page 9 "Because the antiquities of the tribal populations are far greater than the time of entry (3000-4000 ybp) of Indo-Aryan speakers in India (how did they know THAT?), our data support Kivilisid et al's (1999) conclusion that haplography U was introduced in India by an ancestral population that preceded the arrival of Indo-Aryan speakers into India." So how did they know that these speakers did arrive at all? "The entry of human from these regions in India was through the northwestern corridor of India (Taper 1975!). We have therefore chosen to investigate……"

http://www.oxfordancestors.com/papers/mtDNA04%20DNALandscape.pdf

“These Central Asian nomads probably from …… Most likely there arrival onto the Iranian plateau 40000 ybp brought the Indo-Iranian branch of the Indo-European family… Assumes what the study sets out to prove. Page 12 “The substantial Western Eurasian presence in the Indus valley and northwestern India MAY have been the result of repeated gene flow received from further west at different periods including the first Paleolithic arrivals..” So the author are not sure of the direction as well as the timing. Bamshad has been cited approvingly. They conclude by saying that the variations observed in the mtDNA may have been the result of pastoral nomads or Indo-Iranian speakers from the northwest. The IEL got to love this stuff.

http://evolutsioon.ut.ee/publications/Kivisild2000.pdf

"Summing up, we believe that there are enough reasons not only to question a' recent Indo-Aryan' into India some 4000 B. P., but alternatively to consider India as a part of the common gene pool ancestral to the diversity of human maternal lineages in Europe."

According to the Abstract Since Y chromosomal lineages of BOTH Aryan and Dravidian speaking populations are closer to Europe than the mtDNA is,it is only logical to conclude that the so called IE language family has migrated out of India.

"This again tells us that no large scale migrations from Central Asia has occurred at least any involving the presently Turkish speaking populations of this area among whom the frequency of haplogroup M is other wise close to that in India and in eastern Asians."

The above is not very clear. Are they saying that Central Asians are closer to Indians than they are to eastern Asians? If so the similarities are again due to a migration out of India.

"… Indian maternal gene pool has come largely through an autochthonous history since the late Pleistocene."

**Continuity! Continuity! Continuity! - as opposed to invasions and migrations**.

The circle around Kashmir with arrows pointing out in all directions in Fig 31.3. Oppenheimer is against the northern routeout of Africa, tells a muddled story.

http://content.karger.com/ProdukteDB/produkte.asp?Aktion=ShowPDF&ProduktNr=2242\
50&Ausgabe=228324&ArtikelNr=57985&filename=57985.pdf

"Since the Baltic Y-chromosomal haplogroup distribution more closely resembles that of Finno-Ugric than Indo-European-speaking populations, we propose a hypothesis that Baltic males share a common Finno-Ugric ancestry."

**Transcripts of a 1997 PBS film:**

http://www.pbs.org/wgbh/nova/transcripts/2120glang.html

The most splendid coincidence between linguistics and genetics occurs in the case of the Native Americans as expected. Historical linguistics works only when migration patterns are known before hand. Renfrew did not get much air time to speak of the archaeological situation in North America.

"LUIGI CAVALLI-SFORZA: When we took all the (genetic) data from American natives, they clearly fell into three classes, and they correspond exactly to the linguistic families that have been postulated by Greenberg. Not only that, but thefamily which is most heterogeneous of all genetically is the one that is linguistically more heterogeneous of all (parenthesis added)." don't know what to make of this one:

Unravelling migrations in the steppe: mitochondrial DNA sequences from ancient Central Asians. (Lalueza Fox, Sampietro, Gilbert and others , Proceedings Biological Sciences, 5/7/2004, Vol. 271 Issue 1542, p941, 7p)

This study helps to clarify the debate on the Western and Eastern genetic influences in Central Asia. Thirty-six skeletal remains from Kazakhstan (Central Asia), excavated from different sites dating between the fifteenth century BC to the fifth century AD, have been analysed for the hypervariable control region (HVR-I) and haplogroup diagnostic single nucleotide polymorphisms (SNPs) of the mitochondrial DNA genome. Standard authentication criteria for ancient DNA studies, including multiple extractions, cloning of PCR products and independent replication, have been followed. The distribution of east and west Eurasian lineages through time in the region is concordant with the available archaeological information: prior to the thirteenth-seventh century BC, all Kazakh samples belong to European lineages; while later an arrival of east Eurasian sequences that coexisted with the previous west Eurasian genetic substratum can be detected. The presence of an ancient genetic substratum of European origin in West Asia may be related to the discovery of ancient mummies with European features in Xinjiang and to the existence of an extinct Indo-European language, Tocharian. This study demonstrates the usefulness of the ancient DNA in unravelling complex patterns of past human migrations so as to help decipher the origin of present-day admixed populations. [ABSTRACT FROM AUTHOR]

Investigation of the Greek ancestry of populations from northern Pakistan. (Atika, Kehkashan, Shagufta and others, 2004)

Three populations from northern Pakistan, the Burusho, Kalash, and Pathan, claim descent from soldiers left behind by Alexander the Great after his invasion of the Indo-Pak subcontinent. In order to investigate their genetic relationships, we analyzed nine Alu insertion polymorphisms and 113 autosomal microsatellites in the extant Pakistani and Greek populations. Principal component, phylogenetic, and structure analyses show that the Kalash are genetically distinct, and that the Burusho and Pathan populations are genetically close to each other and the Greek population. Admixture estimates suggest a small Greek contribution to the genetic pool of the Burusho and Pathan and demonstrate that these two northern Pakistani populations share a common Indo-European gene pool that probably predates Alexander’s invasion. The genetically isolated Kalash population may represent the genetic pool of ancestral Eurasian populations of Central Asia or early Indo-European nomadic pastoral tribes that became sequestered in the valleys of the Hindu Kush Mountains. [ABSTRACT FROM AUTHOR]

Human Genetics Apr2004, Vol. 114 Issue 5, p484, 7p

DNA diversity of human populations from Eastern Europe and Siberia studied by multilocus DNA fingerprinting. (Shabrova, Khusnutdinov, Tarskaia and others).

Molecular Genetics & Genomics; Apr2004, Vol. 271 Issue 3, p291, 7p
We used DNA fingerprinting with M13 phage DNA as a probe to estimate the degree of genomic variability and genetic relationships in a heterogeneous group of 13 populations from Eastern Europe and Siberia. The popultaions belong to three language families: Indo-European (Slavonic: Russians, Byelorussians), Uralic (Finno-Ugric: Maris, Mordvinians, Udmurts), and Altaic (Turkic: Bashkirs, Tatars, Chuvashes, Yakuts). Multivariate statistical analyses were used (multidimensional scaling, cluster, and multiple correspondence analyses), and coefficients of gene differentiation ( Gst?) were evaluated. The level of interpopulation subdivision in the various ethnic groups appeared to be different: the Byelorussian populations revealed no regional differences, in contrast to the Bashkir populations, which formed a heterogeneous group. The populations subdivided into three general clusters: Slavonic populations formed a separate tight cluster characterized by a minimal level of interpopulation diversity, Bashkir and Yakut populations formed the second cluster, and the Finno-Ugric and several populations of the Turkic linguistic groups formed the third cluster. The robustness of these results obtained by different statistical data treatments reveals that multilocus DNA fingerprinting can be reliably used for population studies. [ABSTRACT FROM AUTHOR]

Independent Origins of Indian Caste and Tribal Paternal Lineages. (Cordaux, Robert, Bently et. Al.)

http://www.eva.mpg.de/genetics/pdf/CordauxCurBiol2004.pdf
Current Biology; Feb2004, Vol. 14 Issue 3, p231, 5pThe origins of the nearly one billion people inhabiting the Indian subcontinent and following the customs of the Hindu caste system are controversial: are they largely derived from Indian local populations (i.e. tribal groups) or from recent immigrants to India? Archaeological and linguistic evidence support the latter hypothesis, whereas recent genetic data seem to favor the former hypothesis. Here, we analyze the most extensive dataset of Indian caste and tribal Y chromosomes to date. We find that caste and tribal groups differ significantly in their haplogroup frequency distributions; caste groups are homogeneous for Y chromosome variation and more closely related to each other and to central Asian groups than to Indian tribal or any other Eurasian groups. We conclude that paternal lineages of Indian caste groups are primarily descended from Indo-European speakers who migrated from central Asia ~3,500 years ago. Conversely, paternal lineages of tribal groups are predominantly derived from the original Indian gene pool. We also provide evidence for bidirectional male gene flow between caste and tribal groups. In comparison, caste and tribal groups are homogeneous with respect to mitochondrial DNA variation , which may reflect the sociocultural characteristics of the Indian caste society. [ABSTRACT FROM AUTHOR; Copyright 2004 Elsevier]

Genetic affinity among five different population groups in India reflecting a Y-chromosome gene flow. (Saha, Sharma, Bhat and others)

Journal of Human Genetics; Jan2005, Vol. 50 Issue 1, p49, 3p

Four binary polymorphisms and four multiallelic short tandem repeat (STR) loci from the nonrecombining region of the human Y-chromosome were typed in different Indian population groups from Uttar Pradeh (UP), Bihar (BI), Punjab (PUNJ), and Bengal (WB) speaking the Indo-Aryan dialects and from South India (SI) with the root in the Dravidian language. We identified four major haplogroups [(P) 1<sup>+</sup>, (C and F) 2<sup>+</sup>, (R1a) 3, (K) 26<sup>+</sup>] and 114 combinations of Y-STR haplotypes. Analyses of the haplogroups indicated no single origin from any lineage but a result of a conglomeration of different lineages from time to time. The phylogenetic analyses indicate a high degree of population admixture and a greater genetic proximity for the studied population groups when compared with other world populations. [ABSTRACT FROM AUTHOR]

Analysis of Indian Population Based on Y-STRs Reveals Existence of Male Gene Flow across Different Language Groups. (Saha, Udhiyasuriyan, Bhat et. Al.):DNA & Cell Biology; Nov2003, Vol. 22 Issue 11, p707, 13p

A study of three different Y-specific microsatellites (Y-STRs) in the populations from Uttar Pradesh (UP), Bihar (BI), Punjab (PUNJ), and Bengal (WB), speaking modern indic dialects with its roots in Indo-Aryan language, and from South of India (SI), speaking the South Indian languages with their root in Dravidian language, has shown that the predominant alleles observed represent the whole range of allelic variation reported in different population groups globally. These results indicate that the Indian population is most diverse. The similarity between the allelic variants between the populations studied by others in Africa and Asia and in this study between WB, PUNJ, UP, BI, and SI are of interest. It demonstrates that these population groups, housed in eight states of the country in different geographic locations, broadly correspond with Indo-Aryan and Dravidian language families. Further, our analyses based on haplotype frequency of different marker loci and gene diversity reveals that none of the population groups have remained isolated from others. High levels of haplotype diversity exist in all the clusters of population. Nonsignificant results based on Markov chain steps and Slatkin's linearized genetic distances indicate that there has been migration to and from in these population groups. However, some of the marginally significant interpopulation differences could be attributed to one or more of the castes with high diversity embedded within the population groups studied. Haplotype sharing between populations, F[sub ST] statistics, and phylogenetic analysis identifies genetic relatedness to be more between individuals belonging to two different states of India, WB and PUNJ, followed by UP and BI, whereas SI branched out separately. [ABSTRACT FROM AUTHOR]

HLA A19 subtypes and B loci related haplotype in selected caste groups from the Indian population (Shankarkumar)

Indian Journal of Human Genetics; Jan-Jun2003, Vol. 9 Issue 1, p13, 4p, 2 charts

The Indian population has been broadly classified as Aryans of Northern India and Dravidians of South India. The present study was undertaken to compile available data and investigate the genetic diversity of HLA A19 subtypes in Indians and its associated B locus haplotype frequency distribution at the population level. The study revealed that A33 was common among the selected North Indian caste groups (Aryans) while A31 was common among the selected South Indian caste groups (Dravidians). The haplotypes A33-B44 and

A19-B35 were characteristic to Aryans while haplotypes A19-B22 and A19-B7 were characteristic to Dravidians. Further novel haplotypes such as A19-B14 and A33-B49 were unique to Parsis and Sourastran caste. A low frequency of A29 was observed among the A19 subtype repertoire. Prevalence of HLA A33 and A31 among North Indians (Aryans) and South Indians (Dravidians) along with their unique haplotypes may be a consequence of the founder effect, racial admixture or selection pressure due to environmental factors among this population, [ABSTRACT FROM AUTHOR]. The premise of the study is wrong. Aryan and Dravidain are not racial but linguistic categories.

A population genetics perspective of the Indus Valley through uniparentally-inherited markers. Annals of Human Biology; Mar/Apr2005, Vol. 32 Issue 2, p154, 9p.

McElreavy and Qunitana Murci

Analysis of mtDNA and Y-chromosome variation in the Indo-Gangetic plains shows that it was a region where genetic components of different geographical origins (from west, east and south) met. The genetic architecture of the populations now living in the area comprise genetic components dating back to different time-periods during the Palaeolithic and the Neolithic. mtDNA data analysis has demonstrated a number of deep-rooting lineages of Pleistocene origin that may be witness to the arrival of the first settlers of South and Southwest Asia after humans left Africa around 60?000 YBP. In addition, comparisons of Y-chromosome and mtDNA data have indicated a number of recent and sexually asymmetrical demographic events, such as the migrations of the Parsis from Iran to India, and the maternal traces of the East African slave trade. [ABSTRACT FROM AUTHOR]

Where West Meets East: The Complex mtDNA Landscape of the Southwest and Central Asian Corridor.

Quintana-Murchi, Chaix, Wells and others American Journal of Human Genetics; May 2004, Vol. 74 Issue 5, p827, 19p

The southwestern and Central Asian corridor has played a pivotal role in the history of humankind, witnessing numerous waves of migration of different peoples at different times. To evaluate the effects of these population movements on the current genetic landscape of the Iranian plateau, the Indus Valley, and Central Asia, we have analyzed 910 mitochondrial DNAs (mtDNAs) from 23 populations of the region. This study has allowed a refinement of the phylogenetic relationships of some lineages and the identification of new haplogroups in the southwestern and Central Asian mtDNA tree. Both lineage geographical distribution and spatial analysis of molecular variance showed that populations located west of the Indus Valley mainly harbor mtDNAs of western Eurasian origin, whereas those inhabiting the Indo-Gangetic region and Central Asia present substantial proportions of lineages that can be allocated to three different genetic components of western Eurasian, eastern Eurasian, and south Asian origin. In addition to the overall composite picture of lineage clusters of different origin, we observed a number of deep-rooting lineages, whose relative clustering and coalescent ages suggest an autochthonous origin in the southwestern Asian corridor during the Pleistocene. The comparison with Y-chromosome data revealed a highly complex genetic and demographic history of the region, which includes sexually asymmetrical mating patterns, founder effects, and female-specific traces of the East African slave trade. [ABSTRACT FROM AUTHOR]

http://www.biomedcentral.com/content/pdf/1471-2156-5-26.pdf

# Part 2: Bharatiya Language Studies

## Section 7: Studies Needed to Delineate the Indo in Indo-European

One reason why IE linguistics has become an unfalsifiabile discipline is because of the ignorance of I in the IE. This gap in knowledge has to be filled by continuing the tradition of Bhasha S'iksha through researches in evolution of Bharatiya languages from Proto-Vedic. This will help us to break-away from the Eurocentric modes of IEL while establishing the reality of bhasha as a particular example in general semantics.

We have great pleasure in excerpting the following notes from MD Srinivas' on Indian tradition in science, with particular reference to linguistics. He makes the beautiful statement: "What is true is what is actually spoken in the real world." This recognition of the Bhasha is the core of bharatiya S'iksha, of studies in philology related to bharatiya languages. Let us call it Bharatiya Bhasha S'iksha.

"Any study of the Indian tradition of science has to start with linguistics. This is true not only because linguistics is the earliest of Indian sciences to have been rigorougly systematized but also because this systematization became the paradigm example for all other sciences. Like all sciences and arts in India, linguistics finds its first expression in the Vedas. For most of the Indian sciences, the elements of study and the categories of analysis were established in the Vaidika period, and the basic data was collected and preliminary systematization achieved simultaneously. Thus for the science of linguistics, we find, in the S'iksha and pratisakhya texts associated with the various Vedas, a complete and settled list of phonemes appropriately classified into vowels, semi-vowels, sibilants and the five groups of five consonants, all arranged according to the place of articulation that moves systematically from the throat to the lips. Phonetics and phonology are, therefore, taken for granted by all post-Vaidika authorities on etymology (nirukta) and grammar (vyakarana), including Yaska and Panini. In the pratisakhya literature we also find the morpho-phonemic (sandhi) rules and much of the methodology basic to the later grammatical literature. Indian linguistics finds its rigorous systematization in Panini's Ashtadhyayi. The date of this text, like that of much of the early Indian literature, is yet to be settled with certainty. But it is not later than 500 BC. In Ashtadhyayi, Panini achieves a complete characterization of the Sanskrit language as spoken at his time, and also specifies the way it deviated from the Sanskrit of the Vedas. Using the sutras of Panini and a list of the root words of the Sanskrit language (dhatupatha), it is possible to generate all possible valid utterances in Sanskrit. This is of course the main thrust of the generative grammars of today that seek to achieve a grammatical description of language through a formalized set of derivational strings. In fact, till the western scholars began studying generative grammars in the recent past, they failed to understand the significance of Ashtadhyayi: till then Paninian sutras for them were merely artificial and abstruse formulations with little content…Science in India starts with the assumption that truth resides in the real world with all its diversity and complexity. For the linguist, what is ultimately true is the language as spoken by the people in all their diverse expressions. As

Patanjali emphasizes, valid utterances are not manufactured by the linguist but are already established in the practice in the world. One does not go to a linguist asking for valid utterances, the way one goes to a potter asking for pots. Linguists make generalizations about the language spoken. These generalizations are not the truth behind or above the reality of the spoken language. These are not idealizations according to which reality is to be tailored. On the other hand what is true is what is actually spoken in the real world, and some part of the truth always escapes our idealization of it. There are always exceptions. It is the business of the scientist to formulate these generalizations, but also at the same time to be always attuned to the reality, to always be conscious of the exceptional nature of each specific instance. This attitude, as we shall have occasion to see, permeates all Indian science and makes it an exercise quite different from the scientific enterprise of the West." [From MD Srinivas, 2005, The Indian tradition in science and technology: an overview, in: P. Parameswaran, ed., National Resurgence in India, Thiruvananthapuram, Bharatheeya Vichara Kendram, pp. 52-62.]

**Method of this monograph based on Bharatiya knowledge systems (triad of s'ruti-tantrayukti-anubhuti) to substantiate Proto-Vedic Continuity Theory**

The task of Indian Linguistics or exponents of Bharatiya Bhasha S'iksha is to unravel the evolution of the languages of Bharatam from Proto-Vedic. Panini takes off from a much later period related to Sanskrit as an evolution from Vedic. The challenge is to comprehend the reality of the Vedic and the substratum reality of bhasha in the `real world'. We have some leads in Manu, in Bharata's Natya S'astra and in Bhartrihari's Vakyapadiya. There is a clear reference to mleccha vacas as connoting the spoken language of the real world differentiated from the written word, arya vacas in the millennia prior to the Common Era.

The challenge of Bharatiya Bhasha S'iksha is to delineate the contours of mleccha vacas as it evolved into Munda, Tamil, Vedic, Sanskrit, Prakrits, Pali, Ardhamagadhi, Apabhrams'a, Sauraseni and many other current-day languages of Bharatam. The contours will certainly expand into regions beyond the present-day frontiers of Bharatam and extend into the states of Burma, Malaysia, Laos, Cambodia, Vietnam, Thailand, Austro-Asiatic regions extending upto Tasmania in Western Australia. The presence of Sanskrit inscriptions in these regions together with the presence of Prakrit/Pali inscriptions in Bharatam and Srilanka should provide the leads for the inquiry – with tentative generalizations and keen devotion to evidence through observations of the real world of spoken language.

We have remarkable bharatiya research methodologies in the trivarga of s'ruti-tantrayukti-anubhuti to accomplish these researches into bharatiya bhasha and to generalize on the reality of the spoken languages of Bharatam as they evolved in semantic expansion, from time to time. [See: Kalyanaraman, 2005, A research methodology manual based on bharatiya knowledge systems, ethos and traditions, : P. Parameswaran, ed., National Resurgence in India, Thiruvananthapuram, Bharatheeya Vichara Kendram, pp. 224-246.]

Such an approach will be an effective answer to the unfalsifiability of IE linguistics which ignores the I in the IE. A classic example is the recent discovery of a kentum language known as proto Bangani in India. http://www.bharatvani.org/books/ait/ch32.htm

# Section 8: Study of Prakrits from Paleolithic Times

Varna and jaati are two ways to look at the social structure of a community as it evolved from Paleolithic times. Unfortunately, in many studies, the two terms have been distorted beyond recognition by theorists and politicians alike. The equation of varna and jaati, is, in our view, an unfalsifiability of IE linguistics using bogus semantics. Varna is a choice, a classification such as in varna-maala, vowels and consonants classified by places of articulation in human speech. Another example is in the compound: su-varn.a that is, su 'good', varn.a 'colour. As Gita notes, this is done, gun.akarma vibha_gas'ah (by nature and action). So when applied to characterisation of people groups, varna refers to the professions performed. We have noted that jaati which occurs early in Panini and Patanjali's Yogasutra refers to a nation in the phrase, jaati-des'a (to distinguish a larger entity in relation to, say, a region, des'a as a description of locus). Sure, the root for jaati is 'jan', birth. The derivative jaati is simply a reference to 'beings' as in Darwin's evolutionary scheme of things -- 'beings' in living space, hence 'born or created'.

A paradigm shift in language studies of Bharatam will involve the study of Prakrit languages as the spoken idiom which evolved continuously from Paleolithic times (exemplified by Nahali – Nagari?), analogous to the Paleolithic Continuity Theory formulated by Mario Alinei for studying the evolution of Indo-European languages.

**Section 8.1: Contributions of artisans (gan.a) to language evolution**

Contrary to Aryan invasion or migration or trickle-in theories, a cultural identity can be delineated as speakers of dialects and languages which differentiated in a linguistic area which evolved continuously from Proto-Vedic, Paleolithic times. BB Lal provides an insight of continuity in southern bharat Neolithic in southern bharat sites. The presence of jaina/bauddha sites close to mineral-metal sites on Krishna river basin, the presence of iron smelters of 19th cent. BCE on ganga basin (Rakesh Tiwari), the continuity of sarasvati hieroglyphs on some potsherds of southern bharat megalithic sites (BB Lal), the presence of vel.ir in sangam text claiming descent of 49 generations from Dwaraka also point to the continuity all over bharat in the so-called dravidian and so-called munda language areas; this reinforces the continuity of the linguistic area starting from 6500 BCE when the s'ankha workmanship was found.



Figure 6. Damaged circular clay furnace, comprising iron slag and tuyeres and other waste materials stuck with its body, exposed at lohsanwa mound, Period II, Malhar, Dist. Chandauli.

"Recent excavations in Uttar Pradesh have turned up iron artefacts, furnaces, tuyeres and slag in layers radiocarbon dated between c. BC 1800 and 1000. This raises again the question of whether iron working was brought in to India during supposed immigrations of the second millennium

BC, or developed independently." (Rakesh Tiwari, 2003, The origins of iron-working in India: new evidence from the Central Ganga Plain and the Eastern Vindhyas) http://antiquity.ac.uk/ProjGall/tewari/tewari.pdf



The shape of the smelter is comparable to the copper/bronze furnaces found at Harappa.

Large updraft kiln of the Harappan period (ca. 2400 BCE) found during excavations on Mound E Harappa, 1989 (After Fig. 8.8, Kenoyer, 2000) **bharatiyo** = a caster of metals; a brazier; bharatar, bharatal, bharatal. = moulded; an article made in a mould; bharata = casting metals in moulds; bharavum = to fill in; to put in; to pour into (G.lex.) **bhart** = a mixed metal of copper and lead; bhart-i_ya_ = a barzier, worker in metal; bhat., bhra_s.t.ra = oven, furnace (Skt.)

These examples in metallurgy and glimpses of contributions of artisans (gan.a) are presented to provide a perspective on the nature of the vra_tya, the mleccha who were contributors to the civilization which emerged on the banks of Rivers Sarasvati and Ganga with extensive contacts in neighbouring civilizational areas such as Mesopotamia established by artisans in search of minerals and metals to create new alloys. The findings also indicate that the civilization went through a metals age (bronze working and iron workings circa 1800 BCE) questioning the received wisdom of chalcolithic-bronze-iron sequences in metals technology evolving out of the lithic times. There were yajnika and there were vra_tya who find a mention in Atharva Veda and in Jaina texts.

**Section 8.2: Prakrit languages and Jaati: Introduction**

Two dominant cultural unity markers of itihaasa bharati or Hindu civilisation which evolved indigenously are: 1. languages of Sanskrit and Prakrits and 2. ja_ti. The cultural idiom expressed by these markers are related to the core doctrines of vrata, dharma, r.n.a., yoga and karma. Sanskrit and Prakrits are the grammatically-correct and spoken streams flowing out of the interactions among munda, dravidian and indo-aryan dialects operating in a linguistic area circa 5000 years Before Present. In ancient Bharatiya texts, mleccha, a Prakrit, was recognised as an early speech form, a dialect referred to in S'atapatha Brahman,a and Mahabharata, a dialect which required a translator for a Mesopotamian transacting with a sea-faring Meluhha merchant of Saptasindhu region. Ja_ti is an extended kinship group which evolved out of the interactions related to the core doctrines. No wonder, Maha_vi_ra explains jaina ariya dhamma in mleccha (ardhama_gadhi_, apabhrams'a), which differentiates into the present-day language kaleidoscope of Bharat.



The Meluhhan being introduced carries an antelope on his arm -- a semantic and phonetic determinant. Cylinder seal impression. Akkadian. 3rd millennium BCE. Sumerian tibira, tabira (Akkadian. LU2 URUDU-NAGAR =. "[person] copper-carpenter"); a word indicating

borrowing from a substrate. In Pkt. tambira = copper. The substrate language was Meluhhan! **ml.ekh** = goat (Brahui); mr..eka, me_ka (Telugu); rebus: milakkhu 'copper' (Pali); mlecchamukha id. (Skt.)].

### Section 8.2.1: Sanskrit and prakrits

Sanskrit and Prakrits are two cultural streams, two stylisic variants of bharatiya speech, which have come down from the days of r.s.i-s of R.gveda, Maha_vi_ra and Gautama Buddha, and which have nourished Hindu civilization through Vedic, Ardhama_gadhi and Pali dialectical continuum, operating through a linguistic area in Saptasindhu region where early speakers of Munda, Dravidian and Indo-Aryan dialects should have interacted circa 5000 years Before Present. Both Ardhama_gadhi and Pali are dialects of Magadha, the region walked by both Maha_vi_ra and Gautama Buddha. Even the early Tamil inscriptions have been influenced by Ardhama gadhi, resulting in the development of bi-lingualism or even tri-lingualism as a pan-bharatiya phenomenon, if apabhrams'a dialects are deemed to be popularised Sanskrit forms of speech. Namisa_dhu who comments on Rudrat.a's Ka_vya_lamka_ra (2.12) notes that the basis (prakr.ti) of Prakrit dialects is the natural current language of the 'people', ungoverned by the rules of grammar. (sakala-jagajjantu_na_m vya_karan.a_dibhir ana_hita samska_rah sahajo vacana vya_pa_hah prak.tih tatra bhavam saiva va_ pra_kr.tam; cf. Pischel, Comparative grammar of Prakrit languages, 9, p.7) Thus, the critical differentiation between Sanskrit and Prakrit is in the adherance or non-adherance to rules of grammar, say, as prescribed by Panini for Sanskrit. Prakrits are living speeches which evolved as dialects and had, in a remarkable build-up of language regions (S'auraseni_, Ma_ha_ra_s.t.ri_, Ma_gadhi_, Munda, Santali, Tamil (Damila) etc.), raised to a literary level on par with Sanskrit which tontinued to have a grammatical uniformity right from the days of Panini's grammar.

Phonological features such as retroflex consonants, consonant clusters (e.g., mahadda_nam, marudbhih, saccaritram, tat.t.i_ka) resulting in consonant geminates, non-presence of plosive consonants in word final positions, voicing, omission of single intervocalic stops point to similarities between Dravidian and Indo-Aryan Prakrits. Some scholars tend to explain retroflex sounds as regular phonetic development in Indo-Aryan from earlier dentals. Some scholars opine that Proto-Munda may not have had retroflex sounds since Sora lacks them. But, the large presence of retroflex consonants in Prakrits point to the influence of local speakers of Munda and Dravidian languages. Many borrowings from Dravidian and Munda (or, even Language X) in Sanskrit and presence of unexplained agricultural terms in modern bharatiya languages, have been noted by scholars while the direction of borrowing will continue to be a bone of contention as articles of faith. It is also a moot point if Nahali is a language isolate or a product of a linguistic area since the language contains Indo-Aryan, Munda and Dravidian glosses. When two vowels are in sequence, Prakrit sandhi rules seem to follow the Dravidian type. (e.g. adi + ekkad.a = adekkad.a 'where is that' (Telugu); nara + india = narinda 'king' (Prakrit). The particle iti (tti) is found ina syntactic pattern: Ma_g, kim bhan.a_dha, kim kalais's'as'i tti 'what did you say? what could he do?' Similar form of 'to say' used to mark a quotation occurs in Kannada: nanag (e) i_ vica_ra tili_du anta he_lidru:"'he said, 'I do not know this". Emeneau notes the parallel use of onomatopoetics: Pkt. tharatharedi, tharatharai 'feels giddy'; Kan. 'gud.ugud.isu 'to grumble, roar'. The convergence in phonology and grammar is explained as extensive bilingualism. (Kuiper, FBJ, 1967, The genesis of a linguistic area, IIJ, 10, 81-102; Emeneau, 1956, India as a linguistic area, Lg., 32.3-16).

Emeneau said: "[vocabulary loans from Dravidian into Indo-Aryan] are in fact all merely 'suggestions.' Unfortunately, all areal etymologies are in the last analysis unprovable, are 'acts of faith', ...It is always possible, e.g. to counter a suggestion of borrowing from one of the indigenous language families by suggesting that there has been borrowing in the other direction." (Emeneau, MB, 1980, Language and Linguistic Area, Stanford, Stanford University Press, p. 177).

Linguistic studies governed by such 'acts of faith', will continue speculating. Kuiper, for example, found that 'the vast majority of the R.gvedc loan words belong to the spheres of domestic and agricultural life. They belong not only to the popular speech... but to the specific language of an agrarian population.' (Kuiper, FBJ, 1955, p. 185). Kuiper says that there are 380 loans in the R.gveda; Thieme says that there are no loans at all.

These 'acts of faith' operating in linguistics, leads Edwin Bryant to conclude: "The hypothesis of a pre-Indo-Aryan linguistic substratum remains a perfectly acceptable way of explaining the existence of the non-Indo-European features in Sanskrit. Particularly significant in this regard is the non-Indo-Aryan nature of the terms for the flora of the Northwest. But this is not the only model. As I have attempted to outline, the possibility of spontaneous development for many of the innovated syntactical features, coupled with the possibility of an adstratum relationship between Draidian and Sanskrit for features that are undoubtedly borrowings, are the most obvious alternative possibilities. In conclusion, in my opinion, the theory of Indo-Aryan migrations into the Indian subcontinent must be primarily established without doubt ON OTHER GOUNDS (emphasis in original) to be fully conclusive. The apparent 'evidence' of a linguistic substratum in Indo-Aryan, in and of itself, cannot be used as a decisive arbitrator in the debate over Indo-Aryan origins." (Bryant, Edwin F., 1999, Linguistic substrata and the indigenous Aryan debate, in: Johannes Bronkhorst and Madhav M. Deshpande, Aryan and Non-Aryan in South Asia, Harvard Oriental Series, Vol. 3, Cambridge, p. 80).

Fineto talk of substrata, adstrata and borrowings in linguistics. But, for the Aryan question, linguistic analyses are not necessary and sufficient condition.

Let us take a look at what the ancient writers in Bharat had to say about the language situation in various parts of the country. Manu notes (10.45):

mukhaba_hu_rupajja_na_m ya_ loke ja_tayo bahih
mlecchava_cas' ca_ryava_cas te sarve dasyuvah smr.ta_h

This shows a two-fold division of dialects: arya speech and mleccha speech. The language spoken was an indicator of social identity. Hence, Manu says that everyone is a barbarian dasyu, whether he spoke arya or mleccha tongues. Maha_bha_s.ya (Vol. i, p.2) of Patanjali however, notes that learning Sanskrit grammar was necessary for one not to become a mleccha: tasma_d bra_hman.ena na mlecchitavai.. mleccha_ ma_ bhu_mety adhyeyam vya_karan.am.

Hence, it is natural for Vidura to convey a message to Yudhishthira in mleccha tongue while describing the technicalities involved in the la_ks.a_gr.ha (the palace of lac): kincic ca

viduren.okto mlechava_ca_si pa_n.d.ava (0011350061, electronic text of Muneo Tokunaga based on BORI critical edition).

Thus, we have two language groups mentioned: a_rya and mleccha, the former is grammatically correct Sanskrit, the other is the des'i or lingua franca (not unlike the words glossed in Hemacandra's Des'i_na_mama_la_).

The existence of the two categories of speech finds support in the Jaina tract, Pan.n.avan.a_sutta (Pt. I, pp. 35 ff; cf. Deshpande, Madhav M., 1979, Sociolinguistic attitudes in India. An historical reconstruction, Ann Arbor: Karoma Publishers, inc. pp. 43 ff.). After providing a long list of mleccha peoples, mostly living outside of a_rya_varta in the region of northern Bharat stretching from Gujarat to Assam, the text identifies two categories: ariya and milakkhu/an.a_riya. In su_tra 56 of Aupapa_tikasu_tra (= Ovava_iyasutta, p.53), Mahavira speaks about dhamma in ardhama_gadhi_ language: addhama_gaha_e bha_sa_e bha_sai ariha_ dhammam parikahei. The explanation of dhamma is made to ariya and an.a_riya (tesim savvesim a_riyaman.la_riya_n.am... dhammam a_ikkhai. Clearly, both ariya and milakkhu speakers could comprehend ardhama_gadhi language use by Mahavira. The text notes that the words spoken by Mahavira got transformed for ariya and mleccha into their own mother-tongues:

sa_ vi ya n.am addhama_gaha_ bha_sa tesim savvesim a_riyaman.a_riya_n.am appan.o sabha_sa_e parin.a_men.am parin.amai.

Deshpande cites from LB Gandhi, a similar version of tranformation contained in Aupapa_tikasu_tra, in another su_tra called Samava_ya_ngasu_tra, where the audience includes bipeds, quadrupeds, beasts, animals, birds and serpents apart from ariya and mleccha:

sa_ vi ya n.am addhama_gahi_ bha_sa_ bha_sijjama_n.i_ tesim savvesim a_riyaman.a_riya_n.am duppaya cauppaya miya pasu pakkhi sari_siva_n.am appappan.o hiyasiva suha da_ya bha_satta_e parin.amai. (A_gamoddha_rasamiti edition, p. 60, quoted in L.B. Gandhi, ed., 1927, Apabhrams'aka_vyatrayi_, by Jinadattasu_ri, Gaekwad's Oriental Series No. 37, Reprinted in 1967, Baroda). This automatic transformation of ardhama_gadhi speech into the languages of the listeners is a way of affirming the nature of the lingua franca, Prakrit, when Mahavira communicates Jaina dhamma as ariya dhamma. There is explicit permission to use Prakrit, as a non-ariya language, that is non-use of grammatically correct Samskr.tam, to communicate to all people: This is categorically stated in Kundakunda's Samayasa_ra, verse 8:

yatha n.a vi sakkam an.ajjo an.ajjabha_sam vin.a_ du ga_hedum
taha vavaha_ren.a vin.a_ paramatthuvadesan.am asakkam

This is a crucial phrase, vyavaha_ra or vavaha_ra, the spoken tongue in vogue, or the lingua franca, or what french linguists call, parole. The use of vyava_hara bha_sa, that is mleccha tongue, was crucial for effectively communicating Mahavira's message on ariya dhamma.

The clarity with which two dialect streams are identified in the region traversed by Mahavira, is also explicit in the statement contained in S'atapatha Bra_hman.a (3.2.1.23).

he 'lavo he 'lavah

is said to be the expression of exclamation by asura. Paul Thieme takes this to be ma_gadhi_ equivalent:

he 'layo he 'layah (so cited by grammarian Patanjali)

which in turn, corresponds to Samskr.tam: he 'rayo he 'rayah 'hail friends!' (Paul Thieme, 1938, Der Fremdling im R.gveda, Eine Studie uber die Bedeutung der Worte ari, arya, aryaman und a_rya. Leipzig: Brockhaus. Reprint in: Paul Thieme, Opera Maiora, Band I. Ed. Werner Knobl and Nobuhiko Kobayashi, Kyoto: Hozokan Publishing Co. 1995, pp. 1-184, p. 4 (10).

This passage and other evidence leads David Carpenter to conclude: '(vedic society) as a hybrid culture forged out of Indo-Aryan and indigenous ...elements under the aegis of the cultural norm represented by the sacrifice and its language.' (Carpenter, David, 1994, The mastery of speech: canonicity and control in the Vedas, in: Authority, anciety and canon. Essays in Vedic interpretations, ed. Laurie L. Patton, Albany, State University of New York Press, pp. 10-34, p. 30).

Heinz-Jurgen Pinnow's "Versuch einer Historischen Lautlehre der Kharia-Sprache" published in 1959 was a pioneering work which sought to identify etymologies of austroasiatic family of languages. Pinnow included Nahali (a language spoken on the River Tapati in a region northwest of Ellichpur in Madhya Pradesh, not far from the Bhimbhetka caves, a language which is said to have 24% with no cognates in India (hence, a language isolate or language Y?), 36% Kurku munda glosses and 9% dravidian glosses – cf. Kuiper, FBJ, 1966, The sources of Nahali vocabulary, in H. Zide, ed., Studies in comparative Austroasiatic linguistics, The Hague, pp. 96-192), in his list making comparisons of vocabularies betwen Nahali and Mundarica. (Pinnow, Heinz-Jürgen. 1959. Versuch Einer Historischen Lautlehre Der Kharia-Sprache. Wiesbaden, Otto Harrassowitz.) IE linguistics is divided on the issue of classifying Nahali; is it a language isolate? Or, is it part of an Indo-Aryan family? Even the set of languages which were in use in Bharat in ancient times has not been drawn up, "common objections are that we cannot even identify most of hose non-IA languages, now died out, or that we have no Dravidian or Munda documents from that time." (Kuiper, FBJ, 1991, Aryans in the Rigveda, Amsteram-Atlanta: Rodopi, Page i). This is the sorry state of affairs about linguistic studies related to the 'I' in the IE family. The sorry state is exemplified by the postulate of 'language X' by Masica to explain 30% of the words used in Hindi for agricultural plants. (Masica, Colin, 1979, Aryan and non-Aryan elements in North Indian Agriculture', in M. Deshpande, PE Hook, eds., Aryan and non-Aryan in India, Ann Arbor: Center for South and Southeast Asian Studie, University of Michigan, p. 55-151. Add to this, the observation of Kuiper: '...it should be recognized that (Vedic) Sanskrit had long been AN INDIAN LANGUAGE (emphasis Kuiper's), when it made its appearance in history. The adaptations to foreign linguistic patterns cannot be dismissed.' (Kuiper, FBJ, 1991, opcit, p. 94). Thus, we have a situation where the Vedic dialect itself is a composite of substratum and adstratum, yet an 'Indian language'. Is it necessary or possible, through linguistic methods, to isolate the munda, dravidian and indo-aryan elements in Vedic? In our view, it is not necessary. It is enough to start with an agreed consensus that Vedic is an 'Indian language,' as categorised by Kuiper.

If Vedic contained a significant munda presence (substratum or adstratum or borrowing), the tacit, underlying hypothesis is that munda was present in the saptasindhu region, a region closely identified as the locus of the vedic language. The presence of munda is emphatic, not merely in terms of glosses but also in terms of traditions such as those related to e_mu_s.a and dhrumbhu_li.

How could the presence of munda (it is irrelevant if it was deemed to be substrate or adstrate) in saptasindhu region be explained? Are words such as is.t.aka (brick), pin.d.a (lump), khad.ga (rhino), kan.d. (furnace) of munda origin? Are words with –n.d.- of indigenous origin, say of language X? (cf. Hoffman, K., 1941, Die alt-indoarischen worter mit –n.d.- besonders im R.gveda, PhD dissertation, Munchen).

In the Sat.t.aka of Ghanas'ya_ma, A_nandasundari_, Vidu_s.aka asks: "Such a great poet as he is, is he not ashamed to give his dramatic composition in Prakrit instead of in Sanskrit?" (eka_risakayi_ bhavi-a kaham pa_ud.anibandhan.akaran.e n.a lajji-o). Ghanas'ya_ma replies: "No, not at all. The reason why they hage Prakrit is this. Listen: A heretic hates sacrifice, a libertine hates character, and a fool hates knowledge. Man vainly goes on condemning things that are beyond him. Poets who are versed in one language are just partial poets. On the other hand, one who knows all languages is a complete or Perfect Poet." (pa_khan.d.o n.a maham tidikkha-i, vid.o si_la_-i vijjam jad.o jam jam jassa sudullaham khidisu so tam tam muha_ n.inda-i. te savve un.a ekkadesaka-i-n.o je ekkabha_sa_can.a_ so sampun.n.aka-i_ viha_i bhuvan.e jo savvabha_sa_ka-i_.)

It will be interesting to pursue researches to trace back the essential unity of bharatiya languages governed by a common cultural idiom, by identifying the presence of Prakritisms in Vedic and also the presence of Prakrits in the Indo-European languages, Greek and Central Asian languages, in particular. Pischel (Comparative grammar of Prakrit languages, p.4) has made a beginning by tracing common grammatical and lexical characteristics between Prakrit dialects and Vedic, thus establishing the antiquity of Prakrits. (GV Devasthali, Prakritism in the R.gveda, in: RN Dandekar and AM Ghatage, 1970, Proceedings of the Seminar in Prakrit Studies, Poona, University of Poona, 1970, pp. 199-205).

More researches are called for. As AN Upadhye notes: "What remarkably distinguished Prakrits from pali is their dha_tva_des'as and des'i_ vocabulary: these connect Prakrits with their popular speeches of both the South and the North. Because we have not been able to trace their sources correctly, grammars and even texts show ghost forms in their various readings. It is interesting, as pointed out by Dr. PL Vaidya, that the interpreters of Jna_nes'vari_, not being aware of pariyamda, already used by Apabhrams'a authors, misspelt the word and their etymology was wrong. What was one word pariyamda was split as pariyam and root da. In interpreting texts like the Padma_vata, Ra_macaritama_nasa, and Jna_nes'vari_ etc. a constant reference to Prakrit lexions and grammars is essential. Sir Ralph Turner's splended Dictionary of Indo-Aryan shows how Prakrit material has enriched his discussion. In his own words: '...greater attention is to be turned to Prakrit studies in India in which of course my own studies in the history of the New Indo-Aryan languages has given me special interest. There is a tremendous lot about their history to be got from the study of Prakrit, which will be a most fruitful field for very many years.' No Prakrit grammar, not even that of Vararuchi, could be considered a standard one for all the Prakrit and for the entire Prakrit literature, like Panini's As.t.a_dhya_yi_ for the classical Sanskrit...it is necessary that monographs on individual dialects are brought out. The dialectical nature of

Ma_ha_ra_s.t.ri_ was a matter of controversy; but with the discovery of Li_la_vai_, which specifies its dialect as Ma_ha_ra_s.t.ri_, we are now on a definite ground...The extra-Indian Prakrits, such as are called Niya Prakrit, Ga_ndha_ra Prakrit, Simhala Prakrit etc., require to be studied first with reference to the Inscriptional Prakrit and then in comparison with the dialects named and described by Prakrit grammarians...The Prakrit studies have linguistic affinities with Sanskrit on the one hand and Modern Indian languages on the other, and are also connected with the growth of vocabulary of Dravidian languages and with exra-Indian extensions in Niya etc...a critical Prakrit Dictionary...Not only interesting back-formations from Sanskrit works of Jaina authors from Gujarat and Rajasthan will find place therein along with the so-called lapses of Bardic Sanskrit found in our epics and Puranas but also a number of Kannada words from the Kabbigaraka_va of An.d.ayya will fugure as conates. AA scholar of Indo-Aryan feels handicapped in the absence of such a Dictionary of Prakrits; and without recorded data, there is seen a lot of etymological speculation in the field of Modern Indian languages." (AN Upadhye, Important dessiderata of Prakrit Studies and Research, in: RN Dandekar and AM Ghatage, 1970, Proceedings of the Seminar in Prakrit Studies, Poona, University of Poona, 1970, p. xiv)

**Section 8.2.2: Ja_ti in Bharatiya tradition**

An organized church never emerged in Hindu civilization. An extended kinship group called ja_ti has always been a more dominant institution than the state in hindu society which is governed by a doctrine of rebirth in all pantha-s or samprada_ya-s, be they s'aiva, vais.n.ava, buddha or jaina. The multitude of people are aware of the literary tradition of millennia thanks to messages carried by haridas, puranik, gondhali, chitra-kathi, the folk entertainers conveying the pura_n.a and itiha_sa, interspersed with simple transmission of profound spiritual wisdom from the philosophical treatises, explaining the doctrines of dharma, r.n.a, karma, yoga and vrata. The contacts with the intolerant and uncompromising monotheistic religions also helped in strengthening the hindu identity and the pan-bharatiya cultural traditions related to tirthasthana-s and divinities who were ordinary men and women who attained divinity.

Notable is the surprising flexibility of the apparently inflexible varn.a system which, while maintaining the four or five classes of society permitted changes in the ja_ti included in each class or varn.a. In descriptive documents of ancient or mediaeval Sanskrit or Prakrit of Des'i literature, a majority of ja_ti are given names derived from their professions or functions such as sonar, lohar, kunbi (or, kummari). "The Madhyandina Shukla Yajurvedi Brahmins of Maharashtra were well-known traders and money-lenders in pre-British times; the commerce of the whole of eastern Maharashtra was in their hands. People belonging to Brahmin castes have been rulers at various times and in various parts of India. (Narmadeshwar Prasad, The Myth of the Caste-System, pp. 68, 72, 80 etc.)...King Harsha belonged to the Vaishya caste, who are supposed to be traders by profession. The Kayastha, who as a caste of scribes, were dismissed contemptuously in a Sanskrit drama (Mudrarakshasa), as of no importance, succeeded in establishing a dynasty in Bengal. (Basham. The wonder that was India, Grove Press, Inc., New York, 1954, p. 1, fn.; p. 47)." (Irawati Karve, 1961, Hindu Society – an interpretation, Poona, Deccan College, p. 40). Linguistic regions which poossess written literature which is at least 2000 years old, have been a cultural reality of Bharat, nurturing cultural togetherness, governed by an in-marrying caste defining the linguistic region.

Irawati Karve contests the received wisdom that the proliferation of ja_ti in Bharat is the result of fission, sub-fission, sub-sub-fission of a limited number of varn.a (differentiated by occupation or function). The alternative view offered by her is that ja_ti is an extended family or kin group, an endogamous kinship, normally tied to a hereditary occupation and that the birth of ja_ti as an institution, precedes the birth of varn.a framework. The absorption of age-old ja_ti with a stunning variety and coexistence of a multiplicity of behavioural patterns related to indicators such as eating habits, cooking habits, modes or foci of worship, into varn.a society was an artificial ideology unrelated to historical reality.

Varn.a means class just as its use in grammar denotes a class of speech sounds resulting in a varn.ama_la (a garland of sounds) without a connotation of rank or status. Early classifications were: brahma and ks.atra or ra_janya with the third class made up of vis', that is, all the subjects. This word later came to mean vais'ya varn.a. It is to be noted that all the three classes had common divinities and common modes of worship. It is not uncommon to find categories such as arya vais'ya, arya id.iga, affirming that arya is not a class connotation but an adjective connoting a nobility of character. The expression vis'am-pati connoting a king indicates that the early meaning of the word vis' meant 'the human multitude', thus leading to the possibility that there were only two varn.a—brahmin and ra_janya (mantra-chanters and shining ones). The word varn.a may derive from vr., to chose and hence, varn.a meant 'chosen ones', everyone else was vis', the multitude. The pre-existent ja_ti with different parts of a city or town or village alloted to different functionaries (just as Toda, Badaga or Kota of Nilgiris have specialised occupations), fused into a varn.a institution. The markets to which the Orissa Gond, Koya, Bhatra, Saora and Porja came made them interact. Such interactions of tribes dispersed over a large area may explain the emergence of Prakrits as the lingua franca and the later-day differentiation of the languages of Bharat. A good example is the Gurjara trib wihc has categories such as: maratha and rajput clans, muslim gujar, gujar agriculturists, gujar nomads, gujar traders – spread over Rajputana and Maharashtra, Punjab, Delhi. The story of evolution of Prakrits, from circa 3500 BCE, into the languages of Bharat resulting in the linguistic reorganization of Bharat after Independence has not yet been fully told.

Buddhaghos.a's Dhammapada Atta Katha (ca. 400 CE) narrates the story of King Mahanama, cousin of Buddha who had a daughter called Vasabhakhattiya born of a maid named Nagamunda. Vasabhakhattiya became a queen of King Pasenadi and had a son called Vidudabha who ordered Mahanama to eat in the same plate with him. Mahanama took permission to take a bath before eating, went to the river and drowned himself. So ended the Sakya clan. The same Atta Katha has a story related to King Udayana of Kosambi. Udayana's mother was a kshatriya princess. She was lifted lifted by a giant bird from the flat roof of the palace and dropped in the Himalayan forest. She hid in the branches of a tree. A man tried to rescue her. She declined because she was afraid that he might be of a ja_ti different from her own. The man responded that he was a kshatriya and convinced her about his being a kshatriya by showing a secred sign. She then came down and accepted his help. The use of the word ja_ti in this story is significant.

**Section 8.2.3: Vrata as a natural way of life, a framework for ja_ti**

The history of this word shows the evolution of hindu thought. It meant a 'path, way' in the R.gveda. It meant a function. It meant a function chosen or a natural function. (VM Apte, All about vrata in R.gveda, Bulletin of the Deccan College Research Institute, Poona, Vol. II,

June 1942; W. Norman Brown, The basis for the Hindu act of Truth, Review of Religion, November 1940, Vol. V, No. 1, p. 37). It was everyone's duty to go by one's vrata, the chosen, natural way of life. "A carpenter, following his vrata, wishes for a break in a chariot, a surgeon wishes for a maimed one, a Brahmin for a patron who will engage him to press soma...In the same way (equipped) with wood (fuel), bird's feathers (for dusting), stone (an anvil) and flames (fire), a goldsmith seeks out a man who has gold to be worked...I, a poet; my father, a surgeon; my mother, milling grain; we with different thoughts, as we seek wealth follow each our vrata, as a herdsman follows his cows. In the same way a draught-horse desires a chariot easy to draw...the phallus desires a hairy cleft (woman's organ), the frog desires water." (RV 9.112: r.s.i S'is'u a_ngi_rasa) (cf. W. Norman Brown, op cit.)

na_na_nam va_ u no dhiyo vi vrata_ni jana_na_m
taks.a_ ris.t.am rutam bhis.ag brahma_ sunvantam icchati_ndra_yendo pari srava (9.112.1)

jarati_bhir os.adhi_bhih parn.ebhih s'akuna_na_n
karma_ro as'mabhir dyubhir hiran.yavantam icchati_ndra_yendo pari srava (9.112.2)
ka_rur aham tato bhishag upalapraks.i_n.i_ nana_
na_na_dhiyo vasu_yavo nu ga_ iva tasthimendra_yendo pari srava (9.112.3)
as'vo vol.ha_ sukham rram hasana_m upamantrin.ah
s'epo roman.vantau bhedau va_r in man.d.u_ka icchati_ndra_yendo pari srava (9.112.4)

Satyavrata was a person who would live by truth; patrivrata was devoted to her pati, husband; anuvrata was a person who would perform his duties. It was a vow. It was a duty incumbent upon a certain position or station in life, an a_s'rama dharma. The vrata of a river was to flow. A Buddha story refers to satya-kriya_, an act of truth. "King Ashoka inquired if anybody in his kingdom would perform an act of truth. No Brahmin or monk or Kshatriya came forward to do it. At last a courtesa, Indumati by name, came forward and before the assembled multitude made the mighty river Ganga flow upstream...'But even I, wicked woman that I am, possess an act of truth, by means of which, should I so desire, I could turn the world of men and the worlds of the gods upside down...Your Majesty, whoever gives me money, be he a noble (khattiya) or brahmin or a merchant (vessa) or a serf (sudda) or of any other caste soever, I treat them all exactly alike. If he be a noble I make no distinction in his favour. If he be a serf, I despise him not. Free alike from fawning and contempt, I serve the owner of the money. This, Your Majesty, is the act of truth by which I caused the mighty Ganga to flow upstream.'" (W. Normn Brown, loc.cit.)

In Irawati Karve's view, ja_ti differentiation and distribution is an extension of the tribe in bharatiya society. She also extends the association of occupations with ja_ti as a continuation of the R.gvedic tradition of vrata. In the evolution of the hindu civilization world-view, what started as a personal function became a notion of duty, karma (action) as one's dharma (duty). Irawati Karve indicates the Truth Act (satyakriya_) as the connecting link through the R.gveda, Buddha and Jaina literature and even in the tales recorded in historical periods in Tamil and other Prakrit languages. There are also ja_ti clusters with occupations like carpenters, brass-pot-makers, ironsmiths, goldsmiths designating themselves as a group of 'artisans' (say, the five panca_la or pancakamma_l.a).

It can be hypothesised that such a clustering was in vogue in the days of Sarasvati Civilization, that is circa 5000 years Before Present. "To what extent the rural area of these civilizations harboured specialists we do not know. In many developed societies even today

the actual cultivator continues to perform a wide variety of occupations within his own family. Extreme specialization within rural society appears to be a distinctive characteristic of India. In addition to the basic producers of food who are also specialists --- the agriculturists, fisher-folk, cattle-raisers, shepherds, etc. – there are to be found in the villages other specialists like skilled artisans, purveyors of many types of services, landlords and merchants...These services consist of shaving, supplying ropes, repairing ploughs or making new ploughs, supplying earthe pots, playing music and dancing before the godess at a festival, supplying iron implements like ploughshares, axes etc. or repairing them, making new footwear and repairing them, officiating at rituals, serving as village accountant and scribe, and lastly, lowly offices such as removing dead cattle from the village habitation area or acting as messenger, village crier and watchman...we find that specialization in the sense of possessing a learnt skill is found only in the case of the artisans...sonar (goldsmith), lohar (ironsmith), sutar (carpenter)...caste-clusters" (Irawati Karve, opcit., pp. 37-39). Tukaram, the poet, was maratha-wani by caste, but he called himself a kunbi, a ja_ti cluster classed as s'u_dra varn.a.  "...as late as in 1921, the Census Commissioner reported that the Daivadnya Sonar claimed to be Daivadnya Brahmin, that the panchal Sutar claimed to be Vishwa Brahmin, the Jingar asserted that they should be described as Somavamshi Arya Kshatriya and Patwegars wanted to be called Somavamshi Sahasrarjuna Kshatriya." (Census of India, 1921, Vol. VIII, Part I, Appendix C, p. viii; loc.cit. Irawati Karve, 1961, p. 44).

"To sum up, (1) the caste is an extended kin-group spread over a definite region. (2) It is never self-sufficient like a tribe because it is specialized generally in one type of occupation. (3) This deficiency is made good by many castes coming together in a village and being bound up in a pattern of mutual duties, obligations and rights. (4) Castes are arranged in a hierarchical order which however leaves some freedom for particular castes to strive for higher positions. (5) The caste society allows new units to come into its web at a time and in a position which is largely indeterminate. (5) Castes remain in peripheral contact with each other, with very large freeom for each caste to follow what it considers to be its traditional pattern. (7) It illustrates the agglomerative character of the whole Hindu society. The society is not a product of continuous splitting of something whih was a unit but has arisen out of a loose coming together of many separate cultural entities. (8) Historically this pattern might have existed even before the Aryans came, who merely took it up and perpetuated it. (9) This type of society of juxtaposed groups seems to have arisen at a time when different people came together without any single people being strong enough to impose its political or cultural domination. Most of these societies might have been tribal in nature and each retained its separate character in the new set up. (10) This society continued to exist in its old pattern as it had (a) the elasticity to accommodate ever new elements and (b) offered security through a long period of political insecurity and foreign domination. (11) The philosophical systems developed very early in the history of this society, while truly objective, were also at the same time such as to offer a complete justification of the most important aspects of this society. (12) Besides the ideal structure erected by this society its mode of internal articulation made it possible to survive outside attacks and internal schisms. The greatest challenge to this society has come in the modern times (a) when Britain welded it into one political entity for the first time in its long history, (b) when it gained freedom from the forein power as one nation and adopted a democratic constitution, and finally (c) when it is hoping to adopt the modern technology." (Irawati Karve, opcit., pp. 129-130).

The history of languages in Bharat and the history of ja_ti in Bharat are two sides of a cultural unity, the same cultural idiom related to the doctrines of vrata, dharma, r.n.a., yoga

and karma. No wonder, Maha_vi_ra explains jaina ariya dhamm in mleccha. Mleccha of the linguistic area circa 5000 years Before Present with an intense interaction among munda, dravidian and indo-aryan dialects, differentiates into the present-day language kaleidoscope of Bharat.

[Kalyanaraman, Srinivasan, 2005, Prakrit Languages and Jaati, in: Rita D. Sharma and Adarsh Deepak, eds., 2005, Contemporary Issues in constructive Dharma, Volume II: Epistemology and Hermeneutics, Hampton, Virginia, Deepak Heritage Books. See also Sarasvati hieroglyphs decoded as mleccha, summaries at http://spaces.msn.com/members/sarasvati97 ]

# Section 9: Proto-Vedic Continuity Theory of Bharatiya Languages

The rationale for Proto-Vedic Paleolithic Continuity of bharatiya languages is the evidence from artistic, archaeological, geological, genetic, astronomical and linguistic studies. The method will be deductive based on evaluation of the evidences in a variety of disciplines using the Bharatiya traditional knowledge system triad of s'ruti-tantrayukti-anubhuti.

**Section 9.1: Art studies**

India is a rich area for study of Acheulean (stone tool industry, handaxes) occupation or lower Paleolithic archaeology. An excellent beginning has been made in studying this lower Paleolithic time period in the book by Raghunath S. Pappu, 2001, Acheulean Culture in Peninsular India: An Ecological Perspective, New Delhi: D. K. Printworld. This work contains information on Quaternary environments and archaeological studies related to site distributions, habitats, tool types, technology, nature of assemblages, tool function, raw materials, Quaternary deposits, mammalian fossils, hominid remains, subsistence patterns, paleoenvironments, settlement patterns, site formation processes, site catchment analysis, colonization pattern, chronology, and interregional comparison and correlation. Further studies will contribute to a better understanding of settlement dispersal patterns, Pleistocene hominid cognition and adaptive behaviour. This acheulean period has a successor in Bhimbetka rock-art paintings showing domestication of horses and use of wheeled-vehicles and arms.

The earliest Indic art is preserved on rocks in the Paleolithic, Mesolithic and Neolithic stages (40000 B.C.E. onwards) and the seals and the sculpture of the Indus-Sarasvati phase which lasted from about 8000 B.C.E. to 1900 B.C.E. According to Wakankar, the beginnings of the rock art have been traced to 40,000 years BP (before present) in the decorated ostrich eggshells from Rajasthan, dated using radiocarbon techniques. Subsequent phases have been determined using evolution of style and other radiocarbon dates. The Mesolithic period has been dated as 12000 to 6000 BP.

It has been found that there is significant continuity of motif in the rock art and the later Indus-Sarasvati civilization indicating an unbroken link with the Paleolithic and the Mesolithic cultures of India.

We see tessellations in the ancient rock art of India. It has been argued that these designs occur at the lowest stratum of the rock paintings and if that is accepted they belong to the upper Paleolithic period. These designs are unique to India in the ancient world. Tyagi has suggested that they may represent a ``trance experience."

The basic feature of these tessellations is infinite repetition. This repetition may occur for a basic pattern or, more abstractly, the lines extend spatially in a manner so that a basic pattern is repeated in two directions. An understanding of this abstract concept must have been a part of the thought system of the artists. This is another continuity with the central place of the notion of infinite in later Indian thought.

The abstract and the iconic elements in Indian rock art are different from the more naturalistic ancient European cave paintings. There is also difference in the nature of the community and state in the Western and the Indian civilizations in the earliest urban phase. The West has monumental temples, tombs, palaces whereas the society in India appears to have been governed by a sacred order, (T.R.N. Rao and S. Kak, 1998, Computing Science in Ancient India USL Press, Lafayette).

“Earlier studies (prior to 1980) often assumed that food production was imported to the Indus Valley by a single linguistic group ("Aryans") and/or from a single area. But recent studies indicate that food production was largely indigenous to the Indus Valley. Already the Mehrgarh people used domesticated wheats and barley with a high incidence of naked six-row barley (a post-domestication trait) (Shaffer, J.G. and Lichtenstein, Diane A., 1995, The concepts of 'cultural tradition' and 'palaeoethnicity' in South Asian archaeology.) The archaeologist Jim G. Shaffer (Shaffer, Jim G. (1999). *Migration, Philology and South Asian Archaeology*, In: Aryan and Non-Aryan in South Asia. Ed. Bronkhorst and Deshpande, p. 245) writes that the Mehrgarh site "demonstrates that food production was an indigenous South Asian phenomenon" and that the data support interpretation of "the prehistoric urbanization and complex social organization in South Asia as based on indigenous, but not isolated, cultural developments. A regional cultural discontinuity occurred during the second millennium BC and many Indus Valley cities were abandoned during this period, while many new settlements began to appear in Gujarat and East Punjab and other settlements such as in the western Bahawalpur region increased in size. Shaffer and Liechtenstein (1995) stated that: "This shift by Harappan and, perhaps, other Indus Valley cultural mosaic groups, is the only archaeologically documented west-to-east movement of human populations in South Asia before the first half of the first millennium B.C.." (Shaffer and Liechtenstein 1995, p. 139). This could have been caused by ecological factors, such as the drying up of the Ghaggar-Hakra River and increased aridity in Rajasthan and other places. The Indus River also began to flow east and floodings occurred (Kenoyer, J. M. 1995 Interaction Systems, Specialized Crafts and Culture Change: The Indus Valley Tradition and the Indo-Gangetic Tradition in South Asia. In The Indo-Aryans of Ancient South Asia: Language, Material Culture and Ethnicity, edited by G. Erdosy, pp. 213-257. Berlin, W. DeGruyter, p. 224). Jim Shaffer (Shaffer, J.G. 1986, "Cultural Development in the Eastern Punjab." In *Studies in the Archaeology of India and Pakistan*, J. Jacobsen, (Ed.). New Delhi: Oxford and IBH Publishing Co., p. 230) and other scholars argue that these "internal cultural adjustments" reflect "altered ecological, social and economic conditions affecting northwestern and north-central South Asia" and do not necessarily imply migrations."
http://en.wikipedia.org/wiki/Indo-Aryan_migration

**Section 9.2: Genetic studies**

Stephen Oppenheimer who has synthesized the available genetic evidence with climatology and archaeology notes the advances made in studies of mitochondrial DNA inherited through the mother and Y chromosomes inherited by males from the father. His conclusion is that while Africa is the cradle of all mankind (having left Africa about 90,000 years ago), India is the cradle of all non-African peoples (who during a glacial break 50,000 years ago moved out of India, into the Russian steppes, on to Eastern Europe, northeast through China and across the now submerged Bering Strait into the Americas. Krishna, born in India, is the ancestor of the peoples of East Asia, Central Asia, Oceania and West Eurasia (through the M17 mutation). On M17, Oppenheimer said: "South Asia is logically the ultimate origin of M17 and his ancestors; and sure enough we find highest rates and greatest diversity of the M17 line in Pakistan, India, and eastern Iran, and low rates in the Caucasus. M17 is not only more diverse in South Asia than in Central Asia but diversity characterizes its presence in isolated tribal groups in the south, thus undermining any theory of M17 as a marker of a 'male Aryan Invasion of India.'

Study of the geographical distribution and the diversity of genetic branches and stems again suggests that Ruslan, along with his son M17, arose early in South Asia, somewhere near India, and subsequently spread not only south-east to Australia but also north, directly to Central Asia, before splitting east and west into Europe and East Asia." This is consistent with the later comment he made on a yahoogroup: "I did see the flurry of discussion around M17. It was not my intention to disprove AIT or to stir the political pot, just to make a comment about the origin of M17. I do not have very strong views about AIT, except that as with most secondary migratory-invasion theories based on perceived linguistic/cultural flows the evidence for gene flow is small, much less than that for cultural flow. But the Greeks clearly distinguished themselves from both northern and southern barbarians [17] and the evidence from the Greek physiognomists cannot be used to postulate preference for a "northern European physical type", especially when we read that (Polemon, Physiognomica, 8.11-13): Blond [CANQH=] and whitish [U(PO/LEUKOS] hair, like that of Scythians signifies stupidity [SKAIO/THTA], evilness [KAKO/THTA], savagery [A)GRIO/THTA] And when we read (Pseudo-Aristotle, Physiognomica): The people whose eyes are light blue-grey [GLAUKOI/] or white [LEUKOI/] are cowards [DEILOI/] " (Posted on May 24, 2005 msg# 4398 on Yahoogroup Austronesian, by Oppenheimer)

He goes on to conclude: "'First, that the Europeans' genetic homeland was originally in South Asia in the Pakistan/Gulf region over 50,000 years ago; and second, that the Europeans' ancestors followed at least two widely separated routes to arrive, ultimately, in the same cold but rich garden. The earliest of these routes was the Fertile Crescent. The second early route from South Asia to Europe may have been up the Indus into Kashmir and on to Central Asia, where perhaps more than 40,000 years ago hunters first started bringing down game as large as mammoths."

http://evolutsioon.ut.ee/publications/Kivisild2003a.pdf

"In contrast, the majority of the Indian paternal lineages do not share recent ancestors with eastern Asian population but stem from haplogroups common to (eastern) European or Western Asian populations. This finding has recently been interpreted in favor of the classical Indo-Aryan invasion hypothesis. Here, we show this interpretation is probably caused by a

phylogeographically limited view of the Indian Y-chromosome pool, amplified because of current inconsistencies in the interpretation of the temporal scales in the variability of the non-recombining (NRY). It appears to us that the high variability of the STR's in the background of NRY variants in India is consistent with the view of the largely autochthonous pre-Holocene genetic diversification-a conclusion reached earlier for the Indian maternal lineages (Kivisilid et al 1990a). "

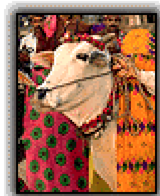
"If we were to use the same arithmetic and logic (sensu haplography 9 is Neolithic) to give an interpretation of this table, (Table 17.3), THE STRAIGHTFORWARD SUGGESTION WOULD BE THAT BOTH (NEOLITHIC) AGRICULTURAL AND INDO-EUROPEAN LANGUAGES AROSE IN INDIA and from there, spread to Europe (emphasis in the original)".

**Section 9.3: Archaeological studies**

The interested reader is referred to Kenoyer (1998), Lal (2005, 2002, 1997), and Alinei (2004) for evidence of archaeological continuity. The unproven and occasionally wild speculations coming from the pseudo-science of Indo European linguistics must not be treated as actual history. The conclusions reached by IEL could be no more than a fairy tale. As the Harvard archaeologist Lamberg-Karlovsky (2002) puts it; "once upon a time-no one really knows how long ago-there was a community that spoke a language known today as Proto-Indo-European (p. 63)."

Archaeological evidences point to the continuity of the Vedic civilization from deep antiquity in the landmass that referred to by historians as Greater India (Akhanda Bharatam). "On the other hand, there is a **clear case of cultural continuity**, not only at Mohenjo-daro but also at other Harappa Culture sites. Commenting on this issue, Lord Colin Renfrew (UK) avers: 'If one checks the dozen references in the Rigveda to the Seven Rivers, **there is nothing in any of them that to me implies invasion. … Despite Wheeler's comments, it is difficult to see what is particularly non-Aryan about the Indus Valley Civilization.**'"
http://www.geocities.com/ifihhome/articles/bbl002.html

Archaeologist Kenoyer (2005) notes:



"Some of the technologies, architecture, artistic symbols and aspects of social organization that characterized the first urban centers of the Indus Civilization have continued up to the present in the urban setting of traditional South Asian cities.

"Some of these misconceptions are that the Indus urban society was the result of colonization from Mesopotamia to the west (in modern Iraq); that it appeared suddenly from unknown origins; that is was a strictly uniform culture ruled by a priest-king from two major capitals; and then disappeared, leaving no influence on later cultural developments."

http://www.harappa.com/indus/indus3.html

Given the stratified nature of bharatiya samajam, there was a substandard spoken dialect, mleccha, which coexisted with the attested written languages used in texts. The interactions between mleccha and Samskr.tam have to be unraveled. This is the linguistic challenge to give voice to a Sarasvati hindu civilization which was the most expansive civilization of its

time from ca. 6500 BCE to 1900 BCE (when the River Sarasvati desiccated due to plate tectonics and resultant migrations of Himalayan glacial tributaries)with archaeologically attested contacts with Mesopotamian civilization area. In the context of explaining the history of language evolution in Akhanda Bharatam,a hypothesis can be postulated that a Paleolithic Continuity Theory proposed by Mario Alinei for IE may also apply to the history of a spectrum of languages in Bharat. As noted by Mario Alinei, "Within the continuity theory, the retrospective method has been revised by adopting the uniformitarian principle of all historical sciences, namely, "The present is the key to the past." Thus the "known" basis for it is necessarily formed by the present spoken substandard (mostly rural) dialects, which in the Old World can be considered the relics of prehistoric languages spoken by Neolithic societies, greatly modified in the Metal Ages (especially Bronze and Iron) by the linguistic superstratum of typically elite migrations. Overwhelming linguistic evidence—perfectly coinciding with the continuity evidence provided by archaeology—confirms this new thesis and, more generally, the advantages of the theory (Alinei 1996–2000)."

What used to be called philology became linguistics predominantly focused on Indo-European linguistics (IEL) with disciplines such comparative linguistics and historical linguistics as sub-disciplines. Even though the discovery of IEL as a discipline was initially related to the discovery of Sanskrit as a remarkably advanced language of a civilization, comparative studies rapidly degenerated with an ideology of eurocentrism, seeking to establish the origins of Indo-Europeans, their homeland (urheimat) and series of conquests to establish the dominance of Indo-European on conquered territories. This invasionist model has been the mainstream ideology of IEL, exemplified by a theory of Aryan Invasion into Bharat (that is, India), later modified as Aryan Migration or Aryan Trickle-in Theories, but still with the focus on urheimat located somewhere in an indeterminate location or area in Europe and assuming that if proto-indo-europeans did not conquer Bharat by force, then they conquered by 'intellectual, cultural superiority.' As noted by Mario Alinei: "Two major current theories suggest a late invasion from East Europe in the Bronze Age or a demic dispersion from Anatolia as consequence of early Neolithic civilization. There is, however, no archaeological evidence of invasions, European Neolithic is essentially a local development, and the latest outcome of genetic research demonstrates that 80% of European genetic stock goes back to Paleolithic. In addition, both archaeologists and linguists of the Uralic area now concur on a Paleolithic origin of Uralic people and languages in Eurasia." Alinei goes on to propose an alternative Paleolithic Continuity Theory on Indo-European origins dismissing the invasionist models as Eurocentric ideology.

http://www.continuitas.com/index.html

The 19th century invasionist paradigm needs to be discarded as motivated by colonialist ideology. In the context of recounting a 'paradigm shift' in Finnish Linguistic Prehistory, Merlijn de Smit presents a perspective on the limitations of historical linguistics: http://www.butterfliesandwheels.com/articleprint.php?num=77

"Historical linguistics proper is not an empirical science in the sense that physics is - in which repeatable spatiotemporal occurrences are studied - but a discipline which strives to provide a picture of the past as plausible as possible, one in which the interpretations of the researcher play a vital role. This makes a strict methodology and in particular the conviction that it is historical reality we are after, not someone's reality but reality itself, all the more necessary, since it is all too easy to slide in Von Däniken-like fantasism."

“The consensus view is that people speaking an ancestor of the current Indic languages invaded the Indian subcontinent from the northeast about 1600 B.C. (Beekes 1995: 45), before that, Dravidian languages may or may not have been spoken on a larger area than they are now; the presence of one outlying Dravidian language in Southern Pakistan, Brahui, would suggest the former.”

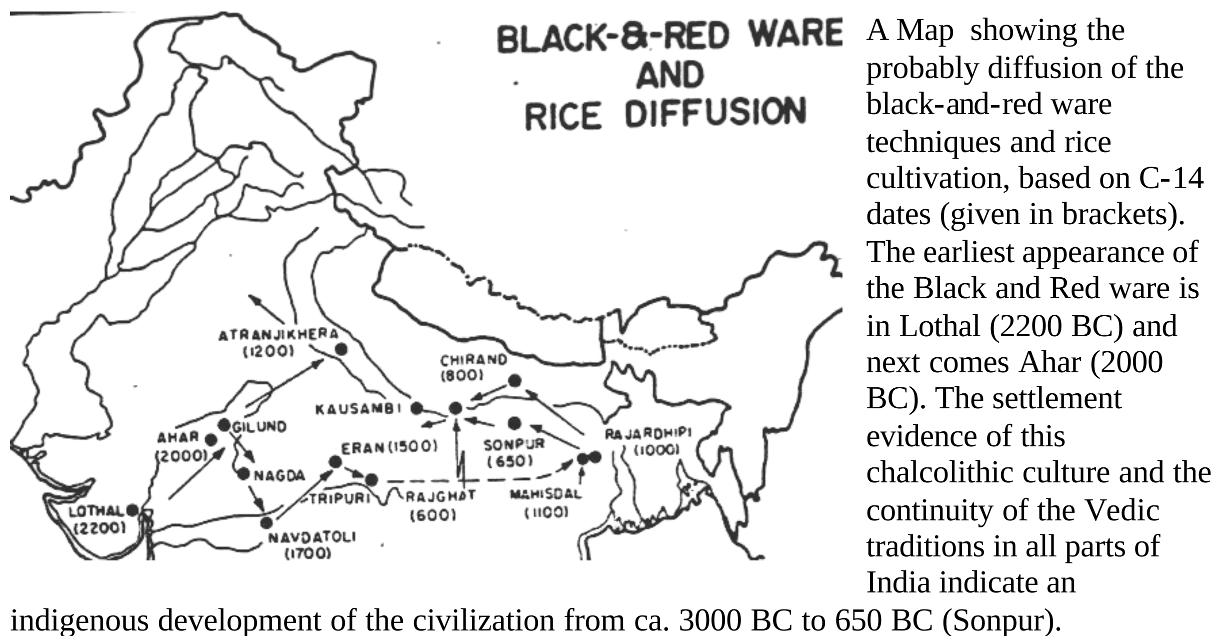
Noting that the core of historical linguistics in the 19th century was indeed the study of Indo-European languages, was suffused by Eurocentric myth-building, Subhash Kak echoes sentiments similar to those of paradigm shift in Finnish linguistic pre-history, when he views the linguistic area in Bharat as a set of overlapping language groups: “…based on certain structural relationships the North and South Indian languages are closer to each other than Sanskrit and Greek” This classification will allow us to get rid of the term Aryan in the classification of languages which is a good thing because of the racist connotation behind its 19th century use. Its further virtue is that it recognizes that language families cannot be exclusive systems and they should be perceived as overlapping circles that expand and shrink with time.” (...) language families belong to overlapping groups, because such a view allows us to represent better the complex history of the interactions amongst their ancestor languages…Indian linguistic evidence requires the postulation of two kinds of classification. The first is the traditional Indian classification where the whole of India is a single linguistic area of what used to be traditionally called the Prakrit family. Linguists agree that based on certain structural relationships the North and South Indian languages are closer to each other than Sanskrit and Greek (...) Second, we have a division between the North Indian languages that should really be called North Prakrit (called Indo-Aryan by the linguists) and the South Indian languages that may be called South Prakrit (or Dravidian)” Kak connects ancient Greek culture to the influence of seafaring Indians, dates Vedic Sanskrit a few millenia earlier than is commonly done (Subash Kak, 1996, *Indic language families and Indo-European*, Yavanika 6, p. 51-64).

The focus of this monograph is on the ‘Indo-‘in IEL. The very hyphenated compound Indo-European which continues to be used in discussions is premised on an ideology of ‘aryan’ as a warrior-class invading territories and submerging ‘native’ cultures. Just as 80% of European genetic stock goes back to Paleolithic, the ‘Indo-‘ or bharatiya genetic stock too goes back to Paleolithic, thus rendering the use of the genetic term ‘family’ to a class of languages called Indo-European itself gets called into question. There is increasing evidence that the Hindu civilization was a continuous and indigenous evolution within Bharat from Paleolithic times. By placing the arrival of the mythical ‘aryans’ into Bharat around 1500 BCE, IEL has no clue to explain the presence of an advanced hindu civilization, evolving as a riverine-maritime civilization with advances in metallurgy, on the Sarasvati-Sindhu river basins with trade contacts extending upto sites in Mesopotamian civilization, which is seen as providing the roots of and continuity in hindu culture in a variety of facets of civilizational progress in a continuum dating back to 6500 BCE when the burial of a woman was found at Nausharo with ornaments made of s’ankha (turbinella pyrum) which is a zoological speicies unique to the coastline of hindumahasagar (Indian Ocean) rim.

In IEL studies, which originally started with the abundant textual and epigraphical resources of bharatiya languages of ancient times, there is little evidence of understanding of the evolution of bharatiya languages. The I (Indo) in the IE (Indo-European) has been relegated to the background as a mere off-shoot of differentiations as the marauding Proto-Indo-

Europeans moved around Europe and India (Bharat). Linguistic studies can no longer be conducted in isolation and have to take into account the contributions made by different sciences which have studied the problems of language origins.

Archaeological discoveries, using radio-carbon and other innovative dating techniques, including marine archaeological explorations of the type in Dwaraka and Gulf of Khambat, have recorded, much higher chronologies for bharatiya history pointing to continuity of culture Paleolithic times. The conclusions of the archaeologists is that there is no trace whatsoever of any invasion into Bharat; the conclusions of scholars versed in bharatiya languages is that the word 'arya' as used in early texts such as the Rigveda does NOT connote a race but is only a character designation, something like, 'sir' as a respectful, civilized form of address. Mario Alinei also notes the conclusions of archaeology that "Neolithic cultures of Europe either are a direct continuation of Mesolithic ones, or have been created by Mesolithic groups after their Neolithization by intrusive farmers from the Middle East." http://www.continuitas.com/intro.html




A Map showing the probably diffusion of the black-and-red ware techniques and rice cultivation, based on C-14 dates (given in brackets). The earliest appearance of the Black and Red ware is in Lothal (2200 BC) and next comes Ahar (2000 BC). The settlement evidence of this chalcolithic culture and the continuity of the Vedic traditions in all parts of India indicate an indigenous development of the civilization from ca. 3000 BC to 650 BC (Sonpur).

Similar results are noted in Bharat of the spread of farming of rice, from Lothal eastwards coterminus with the expansion of black-and-red ware cultures. The language of the Rigveda, which most scholars accept is an indigenous development on the banks of Sarasvati River and sapta-sindhu region (one rica in the Rigveda refers to both as: sarasvati_ saptathi_ sindhu maataa – sarasvati, the seventh, the mother of rivers and ocean), evidences such an advanced stage of development in thought expanding into cosmic inquiries, inquiries of consciousness, the Vedic language should have had many centuries – perhaps 20 centuries -- of development from Proto-Vedic phases. The lingua franca used in the discourses of great savants, Mahavira and Gautama the Buddha in Ardhamagadi (or Suraseni Apabhrams'a) and Pali which are variant dialects of Prakrit (or mleccha) also attest to the parallel phases of evolution of spoken dialects together with the language used in vedic texts. Mleccha (Meluhha) is attested as a language in the Mahabharata, wherein Yudhishthira and Vidura converse in this language discussing the technical details of non-metallic and other killer devices of the laakshaagriha. A language substitution of the imagined scale by invading or migrating 'aryan' pastoral tribes is clearly unlikely given the stage of evolution of bharatiya languages

which were the vehicles for expressing profound aadhyaatmika thought and expounding on sanatana dharma (or what the Buddha called esha dhammo sanantano). There is a possibility that there was a continuity of mleccha-samskr.tam in a cultural continuity from Paleolithic to metal ages (both bronze on Sarasvati-Sindhu river basins and iron smelting on Ganga river basin). This continuity is the generally accepted pattern of history. As Mario Alinei notes, James Mallory, probably the last archaeologist who defends the IE invasion theory, has had to concede: "the archaeologists' easiest pursuit [is] the demonstration of relative continuity and absence of intrusion" (Mallory 1989, 81).

There are indications that "89% of the Megalithic signs and symbols which appear on pottery down to the 9th century BC or thereabouts may be traced to Harappan and post-Harappan signs and symbols… the period dealt with spans virtually the entire millennium between the downfall of the Indus Civilization (c. 19th century BC) and the rise of the later Gangetic civilization (c.9th century BC)… direct continuity between the two is thereby implied; and this is suggested also by the many signs and symbols which recur between the Indus seals and the later punch-marked coinage," (B.B. Lal: "From the Megalithic to the Harappan", *Ancient India* 1960, esp. p.21-24; loc.cit., Mitchiner: J.E. Mitchiner, *Studies in the Indus Valley Inscriptions*, p.12).

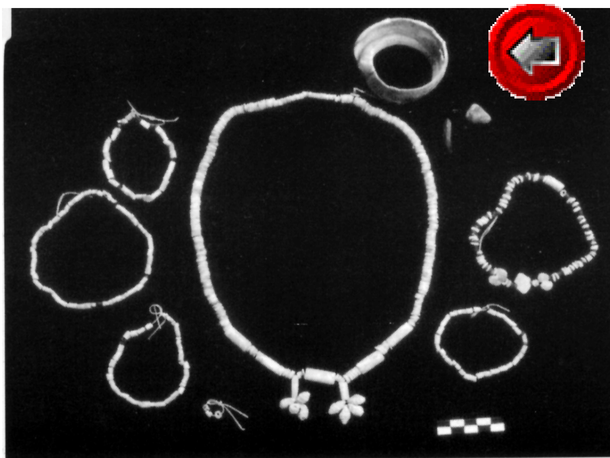
The reason for discarding the invasionist model of IEL and proposing a Proto-Vedic Continuity Theory is the findings of recent studies which point to IE research of the 19th century as having been influenced by contemporary Arian, Pan-Germanic and colonial ideology as first expounded in Count Joseph-Arthur De Gobineau's, Essai sur l'inégalité des races humaines (1853-1855) and Houston Stewart Chamberlain's, Die Grundlagen des XIX Jahrhunderts (1899), with their emphasis on Indo-Europeans racial superiority and their inclination to war and conquest (e.g. Poliakov 1974, Römer 1985, Trigger 1989, Renfrew 1987 etc.). Adolphe Pictet, the founder of the so called Linguistic Paleontology, in his book Les origines des Indo-européennes ou les Aryas primitif. Essai de paléontologie linguistique, Paris, 1859-63, described the "Arian race": «a race destined by the Providence to dominate the whole world… Privileged among all other races for the beauty of its blood, and for the gifts of its intelligence… , this fertile race has worked to create for itself, as a means for its development, a language which is admirable for its richness, its power, its harmony and perfection of forms». Mario Alinei adds: "Moreover, since it was necessary for the Indo-European warriors to have weapons and horses, also the choice of the Copper Age was obligatory, because this was the context of Battle Axes, metallurgy and horse riding. At the same time, while the concept of the Arian super-race gave shape to the myth of the Battle-Axe horse-riding invaders, another myth, within the Arian larger myth, emerged: Pangermanism. Within the Arian superior race, the German father-founders of IE studies saw the Germanic people as the supermen, the purest and the closest to the original blessed race, and chose the Germanic area as the Urheimat of the Proto-Indo-Europeans." http://www.continuitas.com/intro.html

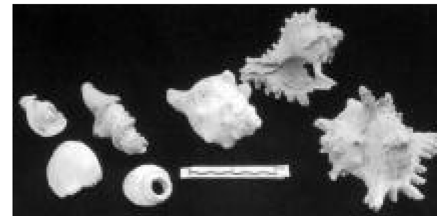
It is amazing that bauddham and jainam could spread into cultures beyond the speakers of suraseni apabhrams'a and pali. How does one explain the epigraphs on Jaina caves in Tamilnadu? How does one explain the transmission of profound aadhyaatmika thoughts by jaina muni and bauddha bhikkus over an extended akhanda bharatam? We have the work cut out for us, chitra ji, to explain why the largest Vishnu mandiram of the world is in Angkor wat (Nagara vatika). And why do od.ra celebrate Bali yatra in Bhuvanes'war on karthik purnima day remembering their ancestor maritime people? The advances in science and

technology, starting with the invention of creating alloys continue to the present day, exemplified by the use of cire perdue (lost wax) technique for making bronze vigrahas in Swamimalai on the banks of River Kaveri, a technique evidenced in the making of bronze statues of Mohenjodaro. So is the case of continuity with the use of s'ankha as an industry, continuously from 6500 BCE to the present day. The word occurs in all bharatiya languages. The word, 'kola' meaning 'woman' occurs in Nahali and also in Assamese. The comparative lexicon of bharatiya languages points to a remarkable semantic clustering and interactions among these languages from very ancient times. The interactions alone may explain the presence of munda (mleccha) words in samskr.tam or thousands of words in Buddha's or Mahavira's discourses which are not found in Samskr.tam.

Two instances of continuity from Proto-Vedic may be cited: s'ankha and the tradition of wearing sindhur by women at the parting of the hair. S'ankha adorns the hand of Narayana together with cakra and is called panchajanya in the hands of S'ri Krishna.

The autochthonous evolution of a riverine, maritime culture is exemplified by s'ankha (turbinella pyrum) was an industry which started earlier than 6500 BCE as attested by the find of a wide s'ankha bangle in the grave of a woman at Mehergarh.





Turbinella pyrum: s'ankha kr.s'ana (conch-pearl) Burial ornaments made of shell and stone disc beads, and turbinella pyrum (sacred conch, s'an:kha) bangle, Tomb MR3T.21, Mehrgarh, Period 1A, ca. 6500 BCE. The nearest source for this shell is Makran coast near Karachi, 500 km. South, (After Fig. 2.10 in Kenoyer, 1998.)

From Gulf of Kutch and Saurashtra: Spiney murex, chicoreus ramosus (a), knobbed whelk, fasciolaria trapezium (b), and sawn fragments of the sacred conch (s'an:kha), turbinella pyrum [After Fig. 5.21 in Kenoyer, 1998].

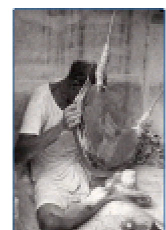
Parvati, wore conch shell bangles – s'an:khaka -- created by Sage Agastya Muni and Divine architect Vis'vakarma. S'an:kha is a Kubera's treasure – one of the nine or nava-nidhi-s.

There are indications that Meluhha of Mesopotamian and Akkadian cuneiform texts was coterminus with the Sarasvati Sindhu Civilization. The cultural indicator is the use of turbinella pyrum (s'ankha) which is also recorded in the R.gveda, Atharva Veda and develops into a major industry in Bha_rata extending upto the Gulf of Mannar and the coastal ports of the East Coast. It should be noted that the habitat of turbinella pyrum is only in the coastline of Bha_rata and does not occur in any other part of the world. S'ankha (conch shell) is used as a conch trumpet, is used for making bangles, necklaces and other ornaments, it is deemed sacred as part of as.t.aman:gal.a (eight auspicious symbols), used by mothers to feed medicines to children and is used as ladles on auspicious occasions and for performing

yajn~as. S'ankha adorns the mu_rtis of Vis.n.u and S'iva in a_gama. Kr.s.n.a is adorned with Pa_n~cajanya used to call the troops to battle and many heroes of the Mahabharata have specifically-named conch trumpets made of s'an:kha.

| | |
|---|---|
| The importance of s'ankha in the mature periods of Sarasvati civilization may be seen from the following archaeological artifacts: Mohenjodaro: libation vessel made from turbinella pyrum. Spiralling lines were incised and filled with red pigment. The vessel is used to anoint kings and to dispense sacred water or milk. Used even today for ritual oblations and to dispense medicinal preparations.[After Fig. 6.38 in Kenoyer, 1998; J. M. Kenoyer, 1983, Shell working industries of the Indus Civilization: an archaeological and ethnographic perspective, PhD diss., UCAL, Berkeley]. 11.4 X 5.4 cm | Turbinella pyrum conch shell trumpet. Hole at apex is roughly chipped. Used to call people for battle or ritually throughout South and Southeast Asia. Essential component of Hindu and Buddhist traditions, one of 8 auspicious symbols. 9.66 X 5.1 cm. Harappa; Lahore Museum, P501 |
| Wide bangle made from a single conch shell and carved with a chevron motif, Harappa; marine shell, Turbinella pyrum (After Fig. 7.44, Kenoyer, 1998) National Museum, Karachi. 54.3554. HM 13828. | Seven shell bangles from burial of an elderly woman, Harappa; worn on the left arm; three on the upper arm and four on the forearm; 6.3 X 5.7 cm to 8x9 cm marine shell, Turbinella pyrum (After Fig. 7.43, Kenoyer, 1998) Harappa museum. H87-635 to 637; 676 to 679. |

A skilled sawyer and shells ready for sawing,  Calcutta.



See: Turbinella pyrum shell bangle manufacturing process. [a to f]: preliminary chipping and removal of internal columella; [g to k]: sawing shell circlets; [l to n]: finishing the shell blank; [o]: final incising [Fig. 5.23 in Kenoyer, 1998].

Ya_bhih kr.s.a_num asane duvasyatho jave ya_bhir yu_no arvantam aavatam madhu priyam bharatho yat sarad.bhyas ta_bhir u_s.u u_tibhir as'vina_ gatam RV 1.112.21 Trans. With those aids by which you defended Kr.s'a_nu in battle, with which you succoured the horse of the young Purukutsa in speed, and by which you deliver the pleasant honey to the bees; with them, As'vins, come willingly hither. [Kr.s'a_nu are somapa_las, vendors or providers of Soma; hasta-suhasta-kr.s'a_navah, te vah somakrayan.ah (Taittiri_ya Sam.hita_1.2.7); kr.s'a_nu = agni; purukutsa was the son of Mandha_ta_ and husband of Narmada_, the river; the text has only 'of the young', Purukutsa.is added]. S'an:khah kr.s'anah = pearl-shell won from the ocean and worn as an amulet (AV 4.10.1). S'ankhah kr.s'a_na mentioned in the R.gveda is a shell-cutting bowman who





Sandstone sculpture of S'iva Bhairava, holding a conch in his left hand, 11th cent. S'ivapuram, South Arcot Dist., Bha_rata (Dept. of Archaeology and Ancient History, MS Univ., Vadodara).



Tradition of sindhur adornment Sindhur worn in the parting of the hair. Nausharo: female figurine. Period 1B, 2800 – 2600 BCE. 11.6 x 30.9 cm.[After Fig. 2.19, Kenoyer, 1998].Hair is painted black and parted in the middle of the forehead, with traces of red pigment in the part.This form of ornamentation may be the origin of the later Hindu tradition where a married woman wears a streak of vermilion or powdered cinnabar (sindur) in the part of her hair. Choker and pendant necklace are also painted with red pigment, posssibly to represent carnelian beads.

It is not mere coincidence that mleccha in Samskr.tam and milakka in Pali means 'copper' since the region is not far from the Sarasvati river basin's khetri and zawar mines. The iron ore mines of Ganga basin is another concyclic circle, a part of aryavarta. As metal weapons become available, it was possible to enact the skullduggery of la_ks.a_gr.ha and fight a maha_bha_rata war.

**Section 9.4: Evolution of human speech**

The proposed Proto-Vedic Continuity Theory is premised on the nature of language evolution itself with a deep time-depth noted in paleoanthropological studies. Language evolution is not merely governed by organic change analogous to biological changes but is governed by the law of conservation subject to external, mainly social, factors such as kinship groups or extended families and language contact groups which contribute to semantic expansions consistent with levels of technological advances through the use of metals and other inventions. This approach will result in convergence of archaeological frontiers with language frontiers with cultural identities related to dialect differentiations (sorts of language orbits), as have occurred with the evolution of bharatiya languages with interactions among munda, Dravidian, indo-aryan, tibeto-burman languages/dialects in a linguistic area (which is defined as an area of interaction with the absorption of and assimilation of language features from one another). The primary task of language studies, continuing the bharatiya tradition of

s'ruti-tantrayukti-anubhuti and the leads of savants such as Panini, Patanjali, Tolkappiyan, Bhartrhari is to draw up the historical picture of language and dialect frontiers in a time-sequence using the rich resources of texts, epigraphs and folk songs and tales from all parts of Bharatam, thus delineating the reality of language in use, based on evidence, and mere unfalsifiable, hypothetical reconstructions.

Given the conclusions of studies in paleoanthropology suggesting the existence of language in homo habilis, the present theories postulating language evolution only from post-glaciation periods may have to be revised. It is also significant that glaciation did not engulf the regions covered by Akhanda Bharatam, thus rendering the regions as the locus for continuous evolution of civilization from Paleolithic times. Tobias' view (1995) is that a form of language may have existed in our australopithecine ancestors (of hominid evolution some four to five million years ago), and certainly existed in homo habilis, the early genus of modern humans. [Tobias, Ph.V. (1995) "The communication of the dead: earliest vestiges of the origin of articulate language." Seventiende Kroon-Voordracht. Amsterdam, Nedelands Museum voor Anthropologie en Praehistorie.]

In the last 3-4 million years brain volume within the hominid lineage has increased from less than 400 ml to roughly 1400 ml. The first clear increase in hominid brain size is seen in early Homo at c.2 m.y.a. in East Africa (most reliably in cranial specimen KNM-ER 1470). This is an evolutionarily significant change that cannot be simply accounted for in terms of increased body size alone. From the appearance of H. erectus at c.1.7 m.y.a. to the present, the brain increases nearly twofold: from c.800 ml to 1500 ml in Late Pleistocene H. sapiens, without any apparent change in body size.

With regard to brain reorganization, left-right cerebral hemispheric asymmetries exist in extant pongids and the australopithecines, but neither the pattern nor direction is as strongly developed as in modern or fossil Homo. KNM-ER 1470 shows a strong pattern that may be related to handedness and tool-use/manufacture. The degree of asymmetry appears to increase in later hominids.

The appearance of a more human-like third inferior frontal convolution provides another line of evidence about evolutionary reorganization of the brain. None of the australopithecine endocasts show this region preserved satisfactorily. There is a consensus among palaeoneurologists that the endocast of the specimen KNM-ER 1470 does show, however, a somewhat more complex and modern-human-like third inferior frontal convolution compared with those of pongids. This region contains Broca's area, which in humans is related to the motor control of speech. http://www.massey.ac.nz/~alock/hbook/brain.htm Evolution of the Human Brain by Ralph Holloway

Naomi Chomsky's views on language postulate language as an innate characteristic. This can be reconciled with the discoveries in paleoanthropology (cf. Ph.V. Tobias) that language evolution has enormous time-depth, with longer evolution than traditionally thought, beginning with some Australopithecus. "Several lines of evidence suggest that the rudiments of speech centers and of speaking were present already before the last common ancestral hominid population spawned Homo and the robust australopithecines [....] Both sets of shoots would then have inherited the propensity for spoken language. The function would probably have been facultative in A. robustus and A. boisei, but obligate in Homo (Tobias 1996, 94)." Genetic studies using DNA have established that 80% of the population

of Bharatiya language speakers have a genetic stock indigenous to Bharat. "The stark lack of similarities in the gene pools of the Indian subcontinent and Europe, vividly evident in the mtDNA and the MHC complex, destroys any Aryan invasion= notions, and confirms the genetic uniformity of peoples of the Indian subcontinent." (Chandrakant Panse, 2005, DNA, Genetica and Populatin dynamics: debunking the Aryan invasion propaganda, in: Human Empowerment Conference, Sept. 16, 2005, Houston, Texas).

"Language and languages are much more ancient than traditionally thought. Consequently, also the record of their origins, change and development must be mapped onto a much longer chronology, instead of being compressed into a few millennia, as traditionally done… much longer chronologies of language origins and language development impose a reversal of this conception: conservation is the law of language and languages, and change is the exception, being caused not by an alleged 'biological law of language', but by major external (ethnic or social) factors, i. e. by language contacts and hybridization, in concomitance with the major ecological, socio-economic and cultural events that have shaped each area of the globe (Alinei 1996)."

http://www.continuitas.com/intro.html

An uninterrupted continuity of languages is evidenced from prehistoric times, in Akhanda Bharatam in what is referred to as a 'linguistic area'. The appearance of bharatiya coincides with the settlement of Homo Sapiens Sapiens. "Several lines of evidence suggest that the rudiments of speech centers and of speaking were present already before the last common ancestral hominid population spawned Homo and the robust australopithecines [….] Both sets of shoots would then have inherited the propensity for spoken language. The function would probably have been facultative in A. robustus and A. boisei, but obligate in Homo" (Tobias 1996, 94, author's emphasis).

**Section 9.5: What language did the pa_nca_la speak? Mleccha.**

What script did the pa_nca_la use? mlecchita vikalpa (one of the 64 arts listed by Va_tsya_yana after explaining vidya_samuddes'ah).

Locus. Mânava Dharma Shâstra, chapter II:

17. That land, created by the gods, which lies between the two divine rivers Sarasvatî and DrShadvatî, the (sages) call Brahmâvarta.
19. The plain of the Kurus, the (country of the) Matsyas, Pancâlas, and Shûrasenakas, these (form), indeed, the country of the BrahmarShis immediately after Brahmâvarta.
21. That (country) which (lies) between the Himavat and the Vindhya (mountains) to the east of Prayâga and to the west of Vinâshana> (the place where the river Sarasvatî disappears) is called Madhyadesa (the central region).
22. But (the tract) between those two mountains (just mentioned), which (extends) as far as the eastern and the western oceans, the wise call Aryâvarta.
23. That land where the black antelope naturally roams, one must know to be fit for the performance of sacrifices; (the tract)different from that (is) the country of the Mlecchas.

In Irawati Karve's view (Irawati Karve, 1961, Hindu Society – an interpretation, Poona, Deccan College), ja_ti differentiation and distribution is an extension of the 'tribe' (extended

kinship group) in bharatiya society. She also extends the association of occupations with ja_ti as a continuation of the R.gvedic tradition of vrata. In the evolution of the hindu civilization world-view, what started as a personal function became a notion of duty, karma (action) as one's dharma (duty). Irawati Karve indicates the Truth Act (satyakriya_) as the connecting link through the R.gveda, Buddha and Jaina literature and even in the tales recorded in historical periods in Tamil and other Prakrit languages. There are also ja_ti clusters with occupations like carpenters, brass-pot-makers, ironsmiths, goldsmiths designating themselves as a group of 'artisans' (say, the five panca_la or pancakamma_l.a). It can be hypothesised that such a clustering was in vogue in the days of Sarasvati Civilization, that is circa 5000 years Before Present. "To what extent the rural area of these civilizations harboured specialists we do not know. In many developed societies even today the actual cultivator continues to perform a wide variety of occupations within his own family. Extreme specialization within rural society appears to be a distinctive characteristic of India. In addition to the basic producers of food who are also specialists --- the agriculturists, fisher-folk, cattle-raisers, shepherds, etc. – there are to be found in the villages other specialists like skilled artisans, purveyors of many types of services, landlords and merchants...These services consist of shaving, supplying ropes, repairing ploughs or making new ploughs, supplying earthe pots, playing music and dancing before the godess at a festival, supplying iron implements like ploughshares, axes etc. or repairing them, making new footwear and repairing them, officiating at rituals, serving as village accountant and scribe, and lastly, lowly offices such as removing dead cattle from the village habitation area or acting as messenger, village crier and watchman...we find that specialization in the sense of possessing a learnt skill is found only in the case of the artisans...sonar (goldsmith), lohar (ironsmith), sutar (carpenter)...caste-clusters" (Irawati Karve, opcit., pp. 37-39). Tukaram, the poet, was maratha-wani by caste, but he called himself a kunbi, a ja_ti cluster classed as s'u_dra varn.a. "...as late as in 1921, the Census Commissioner reported that the Daivadnya Sonar claimed to be Daivadnya Brahmin, that the panchal Sutar claimed to be Vishwa Brahmin, the Jingar asserted that they should be described as Somavamshi Arya Kshatriya and Patwegars wanted to be called Somavamshi Sahasrarjuna Kshatriya." (Census of India, 1921, Vol. VIII, Part I, Appendix C, p. viii; loc.cit. Irawati Karve, 1961, p. 44).

The history of languages in Bharat and the history of ja_ti in Bharat are two sides of a cultural unity, the same cultural idiom related to the doctrines of vrata, dharma, r.n.a., yoga and karma. No wonder, Maha_vi_ra explains jaina ariya dhamm in mleccha. Mleccha of the linguistic area circa 5000 years Before Present with an intense interaction among munda, dravidian and indo-aryan dialects, differentiates into the present-day language kaleidoscope of Bharat.

By the time of Mahavira and the Buddha, language (ardhamagadhi) had evolved to a level of maturity to communicate profound aadhyaatmika thoughts, in satyakriya_ (truth action) governed by sanatana dharma (what the Buddha called esha dhammo sanantano, this dharma eternal, ancient). The message of these savants was carried across a vast region extending from Takshas'ila to Thailand in what George Coedes termed 'hinduised states of southeast asia'. The challenge of historical bharatiya language studies is to explain the nature of the interactions of language speakers in Akhanda Bharatam, ranging from Austro-asiatic languages and dialects to Andaman-Nicobarese languages through Dravidian languages, Nahali on Tapati river valley and mleccha of the dvi_pa of bharata varsha (referred to in the Mahasankalpa in vogue as an invocation for any vrata, in all regions of Bharat).

The application of the Proto-Vedic Continuity Theory of Bharatiya Languages, and the suggested studies of the linguistic area of bharatiya languages may help unravel the nature of evolution of Proto-Vedic language from Paleolithic times differentiating into mleccha, Prakrits and samskr.tam. Hemachandra's grammar *Sidha-hema-shabdanus'asana* has eight chapters. The first seven chapters deal with the grammar of the *Sanskrit* language, and the eighth with that of the *Prakrit* language (Maharashtri, Sauraseni, Magadhi, Ardha-Magadhi, Pais'aci, Chulika Pais'achi, Apabhrmsa). (Winternitz, op. cit., p578.) Hemachandra's four lexicons are a treasure-house to delineate Proto-Vedic, identifying the links with regional dialects: 1 *Abhidhanachintamani* on the lines of *Amarakos'a*: 2. *Anekarthasangraha*, a dictionary of homonyms: 3. *Nighantu*, a dictionary of medicinal plants: 4. and *Des'inamamala*, and dictionary of (native) words not derivable by rules of Sanskrit of Prakrit grammars.

G. C. Pande wrote in 1947, "The anti-ritualistic tendency within the Vedic fold is itself due to the impact of an asceticism which antedated the Vedas. Jainism represents a continuation of this pre-Vedic stream, from which Buddhism also springs, though deeply influenced by Vedic thought." (Studies in the Origin of Buddhism, p.317) Dandekar, echoed these insights: "One may, of course, not go to the extreme of asserting that Hinduism turned its back completely on Vedic beliefs and practices, but one has nevertheless to admit that the impact of Vedism on the mythology, ritual and philosophy of classical Hinduism has been of a superficial nature… in the long history of Hinduism, ....Vedism occurred more or less like an interlude". (R. N. Dandekar, Some Aspects of the History of Hinduism, pp.1-2, p.28)

The Buddha once asked king Ajatashatru of *Magadh* whether he would ask a slave to come back and serve him again if he heard that the slave had run away and become a recluse. Ajatashatru answered "Nay rather should we greet him with reverence, and rise up from our seat out of deference towards him, and press him to be seated. And we should have robes and bowl, etc.,... and beg him to accept of them".(*Samanna-Phala Sutra* in sacred Books of the Buddhist, Vol. II, p.77). These point to the eclectic, vratya nature of the polity coterminus with the yajnika tradition. The vratya could be Mleccha-speakers and yajnika, Sanskrit speakers.

**Section 9.6: Evidence from astronomy**

The astronomical observations recorded in the Vedic literature indicate its continuity in the Indian subcontinent from at least as early as 6500 BCE (Frawley, 1999).

http://koenraadelst.voiceofdharma.com/articles/aid/astronomy.html

http://subhashkak.voiceofdharma.com/astronomy.htm

Mahabharata as the sheet-anchor of Bharatiya Itihaasa
http://www.hindunet.org/saraswati/colloquium/mahabharata01.htm

**Section 9.6: No evidence of evolutionary contact between the Indo and the European Branches of the "Indo-European" family**

The IEL data has been subjected to vigorous statistical analysis by the researchers working on the Computational Phylogentics in Historical Linguistics (CPHL) project supported by the

United States National Science Foundation. Their results indicate that while some European branches of the IEL family have a shared evolutional history, the Vedic family has never had any linguistic contact with them, other than through the hypothetically reconstructed Proto-Indo-European family. Interestingly, the languages of Eastern and Southern Europe move closer to Vedic when Germanic is removed from the IEL tree.

http://www.cs.rice.edu/~nakhleh/CPHL/

See Fig 12 (p. 22) and section 6 (p. 22) of the link below

http://www.cs.rice.edu/~nakhleh/Papers/81.2nakhleh.pdf

and section 7.7 (p. 52) of the following study

http://www.cs.rice.edu/~nakhleh/CPHL/RWT02.pdf

Kazanas (2000) following Burrow (1973) has argued that Sanskrit (Vedic) is the most archaic and the least altered language than its relatives in the IE family. This is very uncharacteristic of a language whose speakers have supposedly traveled thousands of miles over at least two millennia to reach its present location. Refer to p. 5-6 of the following link for details of Kazanas's linguistic arguemts. http://www.omilosmeleton.gr/pdf/rie.pdf

**Section 9.8: Network or web model of language interactions**

IEL researches began with the discovery of Sansrkrit by the Europeans and the recognition of its relationship with European languages. IE linguistics rapidly started building their trees with the implicit assumption that there was never or **could not have been** any relation with other apparently non-Sansrkritic languages of British India. The idea of a language tree acknowledges only two extremes: either languages are completely genetically related to each other or they are not related at all. They only borrow from or loan to or impose on other languages. Such assumption seems hardly appropriate for the Indian subcontinent where an ancient civilization is known to have existed and it still does. **It is possible that a language can have two parents like all human beings.** While the Proto-Vedic and its off spring "Indo-Aryan" languages may belong to an IE family, Proto-Vedic may have resulted in a non IE language (or even a language family) in conjunction with another non IE language (or a language family). In other words, the Bhartiya languages need to be modeled either as networks and/or overlapping linguistic areas. **IE linguists theorized that a language begates languages, but they forget that languages may begat a language also.** Kak (1996) terms the so called Indo-Aryan and Dravidian language families as North Prakrit and South Prakrit respectively.

"The metaphor of something perfect or pure leading to large diversity must be replaced by the metaphor of a web (Robb, 1993). This becomes clear when we consider biological inheritance: as we go back in time we have more and more ancestors (Kak 1996)."

http://subhashkak.voiceofdharma.com/articles/ary2.htm

A new model that fits better with the Proto-Vedic Continuity Theory is propoed below. The new model allows for a close interaction between all ancient Bharatiya languages. Some

languages may have to be modeled as interacting networks instead of trees. We are confident that given enough time and resources, proto languages can be reconstructed according to the new model that will fit equally well with the IEL data. This will be a fruitful avenue for furture research. "Austro-Asiatic (Munda in India and Mon-Khmer in southeast Asia) has 150 languages and 60 million speakers, including Vietnamese. Miao-Yao consists of four langauges with seven million speakers, scattered all over southern China and southeast Asia generally. Daic has some 60 languages with 50 million speakers, especially Thai (Siamese). These three language families are sometimes grouped with the Austronesian family (below) into a "superfamily" called Austric. On the other hand, some linguists consider Miao-Yao and Daic relatives of Chinese." http://www.ship.edu/~cgboeree/languagefamilies.html The relationship between Bharatiya [including Dravidian, Munda (Austric)] and West-European and other Eurasiatic languages must be explored in the broader context of the Eurasiatic language family (Greenberg 2002 2000, Ruhlen, 1994), which in its turn is part of the search for the origin of human speech itself. We reject the current piecemeal approach taken by IEL that choses some languages at the expense of others to build trees according to an unfalsiable ideology. In Saptasindhu region (RV refers to this in the line: sarasvati_ saptathi_ sindhuma_ta_), apart from speakers of Avestan, speakers of Munda are recognized, so are speakers of Dravidian (Brahui) and Language X (farming communities). These Prakrits may also be referred to as mleccha during the Sarasvati civilization period (ca. 3300 to 1900 BCE).

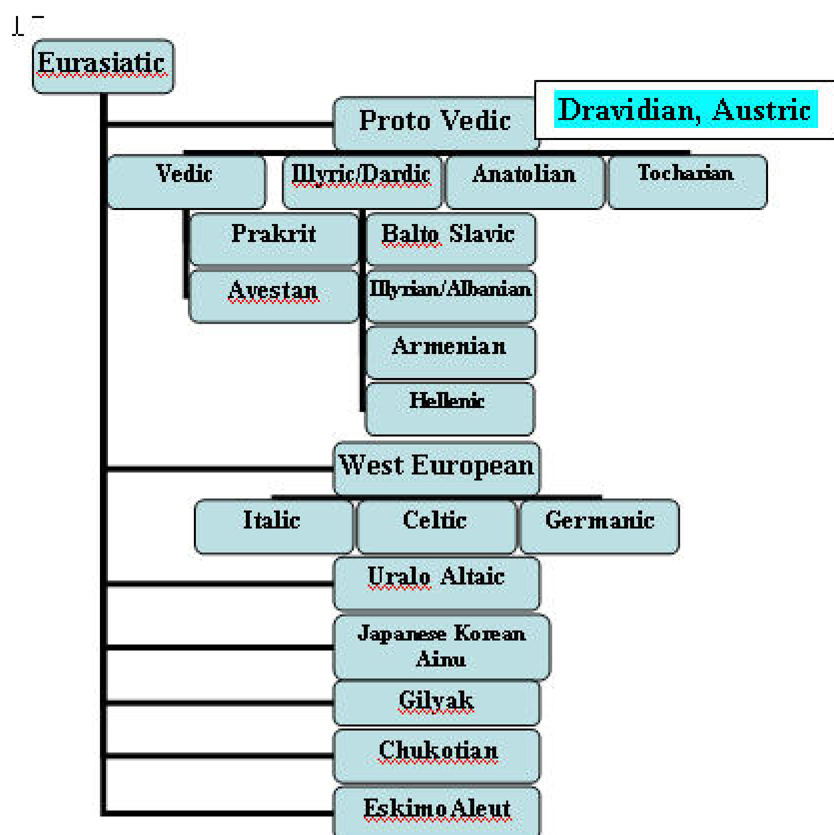



**Figure 1: Prot-Vedic Continuity Theory of Bhartiya Languages**

**Section 9.9: Comparisons between Avesta and Post-Vedic of Sutra periods**

Evidence provided by Avesta attests the Proto-Vedic Continuity Theory of Bharatiya Languages.

The Avesta is comparable to the Vedic Gr.hyasu_tras in the liturgical segments of parallel traditions, which evolved after the movements of people after the desiccation of the River Sarasvati--one group moved towards the Helmand region and another towards the Ganga-Yamuna doab. The high office of the Yazis.n (of the Yasna) consisted chiefly in the ceremonial preparation and offering of the Paraho_m (Av. parahaoma), i.e. the juice extracted from the Haoma-plant mixed with consecrated water, milk and aromatic ingredients; this represents a time when the Soma yajn~a had already become a 'ritual' or a liturgical performance, as distinct from the material, metallurgical process delineated in the R.gveda to purify soma, electrum.

The concordances between Vedic texts (of th sutra period, in particular) and Avestan texts are so vivid that it can be averred that Avestan was a continuation of the Vedic tradition which arose on the banks of River Sarasvati and the sapta sindhu region in Bharatam. (Sarasvati_ saptathi_ sindhu ma_ta_: RV).

From the details provided in Appendix 2, it would appear that there is no need to postulate a proto-indo-iranian to explain the concordances in thought and diction between vedic sutras and Avestan texts related to yasna. Simply, Avestan was a direct derivative from post-Vedic, which evolved into Samskr.tam.

Talageri (2000) has convincingly shown that the contact between Indians and Iranians has occurred on the Indian subcontinent **only**.

http://www.bharatvani.org/books/rig/ch6.htm

**Section 9.10: What language did the neolithic-chalcolithic people of Bharat speak?**

While substantial linguistic analytical work needs to be done to identify the language of Paleolithic times, it may be possible to arrive at Proto-Vedic language patterns based on a comparative study of the proto-versions of present-day languages of sapta sindhu region. Some archaeological leads are available related to Neolithic times. Archaeologist BB Lal has provided some archaeological perspectives related to the saptasindhu region (which he calls northwest South Asian region), starting from Neolithic times, from seventh millennium BCE:

"The evidence from the excavations at Mehrgarh (Jarrige) has demonstrated that the north-western part of the Indian subcontinent had reached a Neolithic, i.e. settled agricultural stage, by the seventh millennium BCE. Here it may also be emphasized that the Mehrgarh Neolithic complex stands in marked contrast to that of Western Asia. For example, whereas in the West Asian Neolithic there is the domination of sheep and goat amongst the domesticated animals and of wheat amongst the cultivated cereals, in the Mehrgarh context the cattle dominated over other animals and barley over other cereals. Thus, the Mehrgarh Neolithic has its own identity, having no generic relationship with its West Asian counterpart. In other words, the Mehrgarh people were the "the sons of the soil".Further, there is a continuous story from the

succeeding chalcolithic level onwards, taking us through various evolutionary stages to the Early Harappan from which there emerged the Harappan Civilization itself, around the middle of the third millennium BCE. Again, after a thorough study of the human skeletal remains, Hemphill and his colleagues (1991) have shown that there was a biological continuity right from 4500 BCE to 800 BCE. A question may now be posed: "What language did these chalcolithic people speak?" Though the Harappan script has not yet been deciphered, in spite of so many tall claims, we have yet another way of tackling the issue…an in-depth study of the literary-cum-archaeological-cum-hydrological-cum-radiocarbon evidence duly establishes that the Rigveda (which, to recall, speaks of the Sarasvati as a mighty river) must antedate ca 2000 BCE. By how many centuries, it can be anybody's guess…Putting together the various parts of this jigsaw puzzle, it would mean that if the Vedas reflect the literary counterpart of the Harappan archaeological complex, the Harappans spokes a language called Sanskrit. And since the Harappan Culture had its roots going deep at least into the fifth millennium BCE, it would imply that the Sanskrit-speakers were there in this area as early as that. "Further, had the Sanskrit-speaking people not been the original inhabitants of this region, we would have got evidence thereof in terms of a substratum language, which we really do not have. The presence of a few Dravidian words in the Vedas can be explained by an adstratum and not necessarily by a substratum. As xplained elsewhere by the present author (in press), the Harappans came in lateral contact with the Southern Neolithic people who, in all probability, were speakers the Dravidian language…

"…another homeland has been suggested, 'somewhere in the vicinity of ancient Bactria-Sogdiana' by Johanna Nichols (1997, a and b). From this homeland, Nichols holds, there was a spread of the Proto-Indo-European language to the area surrounding the Aral Sea and on to the Caspian. From there a two-fold spread has been envisaged: a major one to the areas lying to the north of the Caspian and Black Seas and thence to Europe, and a comparatively minor one along the southern side of these seas, also reaching Europe via Anatolia, from the southern end. However, a more noteworthy point in Nichols' schema is that there was only a language-spread and not a migration of people…Nichols' model, proposed only recently, has yet to be fully evaluated by linguists." [Excerpt from Chapter V 'The homeland of indo-european languages and culture' in: B.B. Lal, 2005, The homeland of the aryans, evidence of rigvedic flora and fauna and archaeology, Delhi, Aryan Books international, pp. 63 to 84, [Based on Paper presented at a seminar organized by the Indian Council for Historical Research on the same theme in Delhi on 7-9 January 2002].

Mallory's observation is apropos: "One does not ask 'where is the Indo-European homeland? but rather 'where do they put it now?' "

The possibility of Bactria-Sogdiana being the center from which Proto-Vedic languages differentiated into Avestan, and many European languages/dialects, Vedic, Samskr.tam, Prakrit (Mleccha, Munda, Dravidian) has to be studied further by following upon the studies which indicate a Munda (Austric) presence in the region west of Sarasvati Civilization on Sarasvati-Sindhu doab.

# Appendix 1: How to study bhasha?

**Study of Bharatiya languages: s'abda as Brahman**

A new method falsifiable in science, has to be evolved, a method radically different from the failed methods of Indo-European linguistics which have produced only unfalsifiable assumptions. A rich source for evolving this method and testing it is in the study of ancient languages of Bharatam. A beginning has been with the construction of a comparative lexicon of 25+ ancient languages of Bharatam.
(http://www.hindunet.org/saraswati/html/indlexmain.htm)

The suggested method is premised on language as a socio-cultural reality and has to be analysed only based on recorded evidence without attempting any hypothetical reconstructions or unfalsifiable deductions. The use of the method has to be integral and to follow on the works of savants, Panini, Yaska, Patanjali, Tolkaappiyan, Bhartrhari using the research triad of: s'ruti, tantrayukti, anubhuti (that is, purvapaksha, research design of the type used in Kautilya's Arthas'astra or Ayurvedic texts, and experience recording the speech forms of many kula, gan.a, jaati and janajaati). Such a method will unravel the essential continuity of the languages of Bharata from the days of Proto-Vedic times, consistent with the cultural continuity and indigenous evolution evidenced by archaeological discoveries. The operative principle is that languages conserve and are products of a continuing cultural tradition and are not mere chroniclers of change, not mere mimickry of biological change.

What languages did the kula, gan.a, jaati and janajaati mentioned in the Mahabharata speak? There is one hint that Yudhishthira and Vidura spoke in mleccha. It would appear that there were two dialects in vogue: mleccha and samskr.tam. Mleccha as a language is also mentioned in the brahmanas and by Manu.

Sources for the study of evolution of bharatiya languages are abundant and the literary texts, epigraphs and orally transmitted caarana. and other folk saahitya through communication forms such as yaksha gaana, apart from the texts such as jaataka tales and works of jaina muni-s are the primary sources for use by any researcher in bharatiya linguistics (bhasha s'iksha). The linguistic tradition of bharatam is an unparalleled legacy and heritage which should provide the impetus for a fresh look at the problem of delineating the language of, say, Sarasvati civilization. Elsewhere, the epigraphs of the civilization have been analysed as Sarasvati hieroglyphs related to the metallurgical repertoire of the artisans: furnaces, minerals, metals and alloys produced and traded across an extensive civilizational contact area.

The work done by Bharatiya savants is an extraordinary study of languages in various facets ranging from dhvani to s'abda Brahman, explaining the essential unity of s'abda and Brahman, transcending from phonetic, phonemic, morphemic, semantic analyses – s'abda, dhvani, naada, vaakya, artha -- to language as one manifestation of consciousness, s'abda Brahman or vaag vai brahmeti. S'abda is nitya, artha is nitya. And, their inter-relationship, vaacya-vaacaka-bhaava is also nitya. (siddhe shabdaarthasambandhe lokato arthaprayukte shabdaprayoge shaaStreNa dharmaniyamaH yathaa laukikavaidikeSu || MahaabhaaSya, Vol.1. 6.) The spectrum of language analyses provided, therefore, are breath-takingly expansive and incisive. The purvapaksha provides the framework for further studies related

to the historical evolution of languages of present-day Bharatam, from mleccha through Prakrits to Samskr.tam and the present-day languages and dialects in vogue both as spoken forms and as literary forms. This tradition dating back to the Rigveda and attempts at understanding the import of the veda provide a framework for a paradigm which is a lot difference from the 'linguistic' studies in vogue in academia through subjects such as comparative or historical linguistics or general semantics.

That mleccha is a reality is clearly identified in the practices of spreading the word of the Buddha using local languages and dialects. Gautama advised his disciples, the monks: "I allow you, O monk, to learn the word of Buddha each in his own language…undue importance should not be attached to the dialect of a particular janapada, i.e., a monk should be accommodating to dialectical variations, and not insist upon the use of a particular word," (Gard, Richard. (Ed.) 1961, Buddhism. New York: George Braziller, Inc., p. 67). This mleccha has to be recognized in the dialects used by extended family or kinship groups recognized as jaati or janajaati in bharatiya tradition. "When the Saora yarn is ready it is taken to a Pano neighbour for weaving". The interactions among the jaati have to be studied as part of a study of the true socio-cultural itihaasa of bharatam janam (a term used by vis'vamitra gathina in the Rigveda, referring to the nation of the people of Bharata). The interactions in a linguistic area among Andamanese, Austro-Asiatic, Dravidian, Tibeto-Burman, Prakrits (mleccha) and Samskr.tam have to be delineated in extensive studies of evolution from proto-versions of present-day languages and dialects such as Nahali or Munda or Tamil or Sindhi or Bengali, "The concept 'to cross' /daatu/ in Kannada has several contextual meanings in Jenu Kuruba, i.e., 'to cross', 'to climb up', 'to climb down', 'jump', etc. Among the several small tribes, the 'concepts' for 'color' and 'numerals' are limited to their eco-system. Similarly, concepts for land, animals, plants, soil, wind, weather, social relations and supernaturals are different." (Jennifer Marie Bayer, Sociolinguistic perspectives of cultures in transition Indian tribal situation)
http://www.languageinindia.com/march2005/jennifertribal1.html

As explained in Bharata's Natya s'astra, dheera (hero), sage, brahmana, bauddha uses samskr.tam, and almost all others such as children, persons possessed by evil spirits, mendicants, ascetics, persons in disguise, speak in Prakrit. Specifically, Kirata, Dravida, and Andhra speak in dialects of Saurasena or dialects of the areas in which the natya is performed; sellers of spirits, guards of prisons, and diggers of underground constructions are speak in Odri. These speech identities point to the underlying unity among the languages and dialects and the ability of a natya to communicate the message across the entire bharata varsha.

While discussing the rules for the use of solid instruments, Bharata defines the term, saindhavaka as a regional dialect. Saindhavaka is dependent on the Prakrit language current in the region of Sindhu. It should have musical accompaniments and songs. The va_dya should be of the varieties of vitasta and a_lipta ma_rgas. Here there should not be any text (for representation.) Abhinavagupta notes that it consists of harsh and coarse language. It is in this that poets compose regional plays like D.ombika, Bijaka etc. which are the pastimes of the folk. (31.359-360)

Abhinavagupta notes that ra_saka called ra_dha_vipralambha composed by Bhejjala uses mainly saindhava language. (R.S. Nagar III, p. 70). In the context of the use of language for

Dhruva_ songs, Abhinavagupta explains the use of the term ardhasamskr.tam by Bharata in 32.397.

In 32.396 to 397, Bharata notes: "Generally the language for the Dhruva_ is s'auraseni_. For Narkut.a the language is Ma_gadhi. For celestials the Dhruva_ song is prescribed in Sanskrit and for men the language should be half Sanskrit (meaning the mixture of Sanskrit and Prakrit or any regional language)." Abhinavagupta explains that ardhasamskr.tam refers to the mixed language used in Kashmir by the name S'a_t.akula and the language used in daks.in.a_patha by the name of Man.iprava_la. NP Unni notes that a 14th century text of Kerala titled Li_la_tilakam in Malayalam is also known as Man.iprava_lalaks.an.a. This work is said to have defined Mani.prava_la language as 'bha_s.a_samskr.tayogo man.iprava_lam'.

Thus, s'a_t.akula and man.iprava_la may be cited as examples of ardhasamskr.tam.

In 27.48 in the chapter related to siddhivyanjakam (indication of success), Bharata notes one of the characteristics of arbitrators who will assess the virtues and blemishes of dramatic performance is that they should be knowledgeable in matters of dress, pious by nature and proficient in regional languages, apart from expertise in arts and artifacts. The technical term used by Bharata is: des'abha_s.a_vidha_najna_h.

The study of languages in bharatiya tradition is NOT abstract formulations but the study of reality, recognized in speech, in an uttered and recognized sentence. The perceived form of speech is vaikharee, manifested in the form of phonemes and heard in the form of sounds. (paraiH samvedyam yasyaaH shrotraviSayatvena pratiniyatam shrutirUpam saa vaikharI. vrtti on Bk. 159.) Speech has preceding stages: in the mind of the speaker (madhyamaa vaak) and a formless merger of word form and its meaning (pas'yantee), the inner light, the subtle word and the imperishable, (avibhaagaa tu pashyantI sarvataH samhrtakramaa svarUpajyotirevaantaH sUkSmaa vaaganapaayInI. Bk.167). This may be a synonym of pratibhaa or prakriti, the undifferentiated form of speech.

In bharatiya tradition exemplified by Panini and Patanjali, grammar is s'abdaanus'aasanam (science of words). The sense, meaning or semantics is found in the use of words in common parlance. Comprehending this reality is the object of bhasha s'iksha. Patanjali notes: LokataH arthaprayukte Shabdaprayoga shaastre dharmaniyamaH. That is, s'abdaanus'aanam or grammar, only determines the use of correct words with a view to achieve merit. In DhaatupaaTha, Dhaatuvrttikaara [xiii] clearly mentions that 'bhaaSaa vyaktaayaam vaaci.' Language means uttered speech. (Satyakaama Verma, BhaaSaatattva aur VaakyapadIya. p.23). S'abda is also viewed as a sentence spoken by a reliable person (aapta vaakyam), which is taken as authority or testimony. [aaptopadeshaH shabdaH , Vaatsaayana BhaaSya]

Anirban Dash recognized Bhartrhari as the father of Indian semantics with the following words: " Semantikos is a Greek word derived from 'sema' (sign) going back to the Indo-European 'dhiei' (to see), which is paralleled by 'OIA dhyaanam' (introspection) and the reduplicated form from Persian 'deedan' (to see). Sign has come to mean a word, which is the symbol of expression, the symbol denoting an object. In this connection we can also compare the word ' varNa'- which originally meant 'colour' a sign, and then a sound or a letter… According to Bhartrhari, the sole purpose of speech is to help someone to express his own self… sphoTa or explosion is dependent solely on the unit of the sentence. Hence only the sentence may be called as the true semantic minimum, or the unit of speech… His

Vaakyapadeeya marks a beginning of the tradition that was solely devoted to arthaprakriyaa (meaning analysis)." http://www.languageinindia.com/april2004/anirban2.html Sphot.a may be viewed as an auditory image of sound, a representation of a class of sounds, while dhvani connotes a particular sound. Recognizing two aspects of s'abda, Patanjali notes that while sphota. is grasped by the intellect, dhvani (sound) is heard by the ears. If sphot.a is the initial sound of the drum, dhvani is the reverberation of the initial sound. Naada is a gross form of accumulation of dhvani-s.

An object is recognized through a recognition of the word associated with it. And hence, the word is recognized first, stated as the s'abdatattva. Knowledge and the word are a unity. Vaak in Rigveda is a creation of deva and animals of all forms speak her. Mahavira's teachings recorded in Suraseni Apabhrams'a are said to have been understand by animals of all forms. devI vaacamajayanta devaastaam vishvarUpaaH pashavo vadanti (RV viii. 89.11) In Rigveda, vaak is raashtree devaanaam. (RV 8.89.10), "yaavad brahma viSTitam taavat Vaak" (RV 10.144.8) notes that vaak and Brahman are a unity. Aitareya Brahmana equates Brahman with vaak. (ABr. 4.21.1) Brihadaranyaka Upanishad says: vaag vai Brahman ( Br.U. 4.1.20) Bhartrhari elevates the study of language to a philosophical system, s'abdaadvaita 'language monism'. The ultimate goal of language study is the attainment of the Brahman. S'abda and Brahman are a unity, the consciousness. 'the whole cosmos as manifestation of word (s'abda) and that cosmos is evolved out of the Veda.'[Bk. 124; RV 10.125, vaak manifests itself in everything, vaak is everything in the universe.] "Without beginning or end, is of the nature of word (shabdatattva). All the objects as well as cosmos are manifested from it. This Ultimate Reality is one, but manifests itself as many due to its various powers. Even though it is not different from its powers, it appears to be different. Among its many powers, time is the most important. It is one, but divisions are super-imposed on it. All the different kinds of changes depend on it, which causes multiplicity in the Being. The Ultimate, which is one, contains the seeds of all multiplicity. It manifests itself as the experiencer, the experienced one, and the experience itself." [Bk. from Verse1 to 4, four kaarika-s] W. Norman Brown explains the importance of vaak in the following terms: "Vaak produced the raw material of the universe, the means for organizing it and taught the gods how to use those means. The capstone of the process was the provision that the instruction should be imparted to men so that they could constantly renew creation and thus perpetuate the existence of the universe." ( loc.cit., Bishnupada Bhattcharya, Bhartrhari's VaakyapadIya and linguistic monism, BORI, pp.3-4.)

As a philosophical proposition to acquire knowledge, reality is comprehended through pramaan.a (something measured)of three sorts: 1. pratyaksha pramaan.a 'direct perception through sense organs'; 2. 'anumaana' 'inference'; 3. s'abda pramaan.a 'aagama or verbal understanding from an uttered speech'. In such a perspective, study of language, bhasha s'iksha, becomes a philosophical quest. Panini's grammar, for example, is considered 'the greatest monument of human intelligence' by L. Bloomfield because Panini abstracts, with extraordinary economy or brevity of expression through sutra (threads), about 4000, the rules of the language, Sanskrit, from a structural analysis of the language use.

The linguistic reality is in the sentence and not in the words. The meaning of a sentence is recognized in a flash of insight or intuition, pratibhaa. While a sentence is indivisible, the words constituting the sentence are used only popular, convenient, explanatory tools. For example, the root 'pac' meaning, 'to cook', is abstracted from the words used in a sentence such as pacanti, pakvavaan. This is the doctrine of Bhartrhari, governing study of bharatiya

languages through s'iksha. Therefore, the word does not exist as more than its phonemes, nor is there is a sentence existing as more than the phonemes and the words. padavede'pi varNaanaamekatvam na nivartate |
vaakyeSu padamekam ca bhinneSvapyupalabhyate || Bk. 72 ||

There are no phonemes in the word nor are there parts in the phonemes. There is no absolute difference of the words from the sentence. na varNavyatirekeNa padamnyacca vidyate |
vaakyam varNapadaabhyaam ca vyatiriktam na kiñcana || Bk. 73 ||

(See K. A. S. Iyer, English translation of VP., 1965, Pune, Deccan College, pp.75-77) For Bhartrhari, in jaatisamuddes'a explains that all words and even parts of words denote jaati, the universal. Grammatical categories, as tools of analysis, of Bhartrhari discussed in his third chapter are: Jaati (universal), dravya (substance), sambandha (relation), guNa (quality), dik (direction), kriyaa (action) saadhana, (participants in action), kaala (time), samkhyaa (Number), purusha (grammatical Person), linga (grammatical gender), upagraha (meaning of Atmanepada and parasmaipada endings) and vrtti (complex formation).

Time (kaala) is an independent, creative power (shakti) of s'abdabrahman: kaalaakhyaa svaatantryashaktirbrahmaNa iti tatra bhagavadbhartrharerabhipraayaH ||
Prakaasha on PK. 9.62||

Bhartrhari notes that the apabhrams'a or apas'abda forms have been handed down uninterruptedly, clearly pointing to the evolution of Sanskrit with the Prakrita base. ubhayeSaamavicchedaadanyashabdavivakSayaa |
yo'nyaH prayujyate shabdo na so'rthasyaabhidhaayakaH ||BrahmakaaNDa.183 ||
K.A.Subramaniyam Iyer notes: "for Bhartrhari, the word apabhrams'a does not stand for a particular stage in linguistic evolution as it does for modern Indian linguists for whom it represents that stage, which follows the praakrta and precedes the development of modern Indian languages." In the study of evolution of bharatiya languages, the apabhrams'a words can be used as the substrate which explain the correct or standard form evolved in Sanskrit as noted by Vyaad.i: s'abda prakritih apabhrams'ah, (Satyakaama Verma, BhaaSaatattva aur Vaakyapadiya , Satyakaama Verma, p. 13.) When an incorrect form 'apas'abda' is used, its meaning is inferred by recollecting the correct form as in the example given by Bhartrhari of indistinct forms uttered by a baby due to deficiencies in unevolved vocal cords.

Anirban Dash notes that the word, 'apabhrams'a' occurs first in Tandyabrahmana with the meaning of 'falling down'. [loc.cit. vishvaaH prtanaa abhibhUtarantara ityajagati varSiyayashcchanda aakramate'napabhramshaaya
|| TaaNDyaBraahmaNa 1.5; July, 2004, Apabhrmsha – an introduction ||
http://www.languageinindia.com/july2004/anirbanapabrahmsa1.html ] In the context of study of bharatiya languages, ther term, 'apabhrams'a' [sometimes called apas'abda, apa meaning 'going away'] connoted an 'incorrect, grammatically vulgar or crude' or 'desi' form as distinct from 'samskr.tam' – 'correct or standard' form. Naamisaadhu notes in Kaavyaalamkaara that apabhrams'a is nothing but prakrita. [prakritameva apabhrams'a: Apabhramsha Hindi Dictionary , Dr. Naresha Kumar, p. xviii. ]

A good example of distinguishing correct or standard forms and variants (apabhrams'a) is provided by the form: gauh and its variants: gaavi, gon.i, gotaa , gopatlikaa…( Mahabhashya, Mbh. 1.1 ,p.2) Hence, apa- 'going away from the roots'. The correct form of use of words and

formation of sentences was mandatory in the utterance of mantra during yajna or puja. This requirement is exemplified in the s'iksha method used to orally transmit the Vedas with extraordinary fidelity with due regard to s'abda, dhvani, svara (udaatta, anudaatta, svarita) and chandas. In bharatiya tradition bhasha s'iksha is a sacred vratam, a sacred responsibility in the brahmacarya a_s'rama of a student's stage of life. Such a standard language is distinguished as daivi language by Bhartrhari.

Pali of Gautama and Ardhamagadhi (or Suraseni Apabhrams'a) of Mahavira can be looked upon as dialects which evolved from the substrate languages and dialects of Bharatam from Paleolithic times, in a continuum paralleling the continuity evidenced by archaeological discoveries in cultural facets from Paleolithic to historical time periods. The proto-versions of Pali and Ardhamagadhi (or, Suraseni Apabhrams'a) may constitute the mleccha language which was used by Yudhishthira and Vidura in their conversation on the non-metallic killing devices set up in laakshaagriha. Both Mahavira and Gautama, the Buddha may be looked upon as savants who established the reality of the spoken languages of ancient Bharatam, mleccha as distinct from Samskr.tam. The recorded teachings of Mahavira and Gautama thus provide rich sources for unraveling the evolution of languages in Bharatam. "One of the most significant aspects of Buddhism is that it embraced dialects without any hesitation as fit vehicles for its scriptures. Gautama Buddha, thus, inaugurated a linguistic revolution. This position of Gautama Buddha was against the tradition of holding Sanskrit as the most sacred, if not the only sacred language, for Hindu Scriptures. Early Buddhist scriptures were all written in Pali, perhaps the dialect spoken by Gautama Buddha himself. Although Pali, thus, acquired an important place in Buddhism, the Buddhist monks and scholars were encouraged to use the dialects and languages of the people whom they were trying to lead to the Buddha Marga… Original Pali words and the adaptations of these words were common in Buddhist texts used in Sinhalese, Myanmarese, Cambodian, Laotian, Mon, and Thai languages. Use of original Sanskrit words and their adaptations are common in Chinese, Japanese, Korean, Vietnamese, Tibetan, and Mongolian. While Pali is the language of Theravada Buddhism, Sanskrit and Chinese, and to some extent Tibetan, are the languages of Mahayana Buddhism… For example, Sanskrit word dharma is written and pronounced dhamma in Theravada texts." (M.S. Thirumalai, Language use in Buddhism) http://www.languageinindia.com/oct2002/buddhismandlanguage.html

Edgerton (1954) reports, "Thousands of words were used which are unknown in Sanskrit, or not used there with the same meanings. To this curious language, which became widespread in North India, I have given the name Buddhist Hybrid Sanskrit. … there is no reason to assume any single 'original language of Buddhism.' And whatever the dialects of the missionaries may have been, the sacred texts were soon adapted to the speech native to each locality" (cited in Gard 1961:47). [Edgerton, Franklin. 1954. Buddhist Hybrid Sanskrit Language and Literature. Benares : Benaras Hindu University . Gard, Richard. (Ed.) 1961. Buddhism. New York: George Braziller, Inc.]

Sauraseni apabhrams'a was the dialect in which Mahavira rendered his thoughts formulating jaina dharma flowing from sanatana dharma (dharma eternal, which Gautama the Buddha called esha dhammo sanantano). In a study of the evolution of bharatiya languages, the prakrita or apabhrams'a as desi or bhasha represents the spoken dialects with many variations in vogue in many parts of Bharatam. The sources for the formation of Sanskrit (Samskr.tam) language have, therefore, to be found in the desi or bhasha. Hemacandra called his Prakrit lexical work, 'des'inaamamaalaa'. The variant forms of a language are recognized by Panini as

'optional' forms, by "referring to the region in which a particular word is exclusively used; and referring to grammarians of different region and mentioning the variations acceptable to them." [Deepti Tripathy, "Apabhramsha in Sanskrit Grammar," Aligarh Journal of Oriental Studies, No.3: p.81-92].

[Source: These notes are substantially based on the references and arguments advanced by Anirban Dash and MS Thirumalai, in a series of articles in 'Language in India' website.]

# Appendix 2: Concordances Between Post-Vedic and Avestan

The Yasna (Skt. yajn~a) comprises 72 chapters, called Ha_, Ha_iti. These are the texts recited by the priests at the ritual ceremony of the Yasna (Izashne). The chapter titles are comparable to and derived from sva_ha_ of Vedic times. "In the R.gveda there is little to suggest a familiarity with Zarathushtra's reformation and with his teachings. I am of the view that the period of the R.V preceded that of Zarathushtra and that the holders of the priestly office offered their services in regions lying far into the West and that the allusion in the RV to the generous Parthian prince who rewarded the sacrificial service should not be underestimated...precisely in India the Asuras evolved into demons in the later period...The Asuras install the three sacrificial fires A_havani_ya, Ga_rhapatya and Anva_ha_ryapacana in a different sequence than the gods do and thus are deprived of their luck (TBr 1.1.4.4). When a custom has to be rejected as unsuitable it is called an Asura custom. (S'S'S 15.15.11; Gobhila S'ra_ddha Kalpa 3.7)...When did the separation or the hostile contact take place? We can rule out the period prior to the R.V since like the Avesta the R.V combines the word asura mostly with the concept of divineness and sees in r.ta-as.a the expression of highest holiness. We can draw the line only where asura seems to be transformed regularly into a demon, that is between the bulk of the R.gvedic hymns on the one side and that of the Bra_hman.as on the other...The Veda and Avesta cannot be connected directly with one another; many links are missing between the two. The events which took place between the period of the RV and that of the Bra_hman.as are lost for us in obscurity...Already the cry, he lavo, attributed to the Asuras in one passage of the S'Br (S'Br 3.2.1.23), demonstrates that under the word asuras we should understand purely Indian enemies, in this case, definitely eastern enemies just as enemies from Mazendran (ma_zainya) are included among the Dae_vas...TS 6.4.10.1: br.haspatir deva_na_m purohita a_si_c chan.d.a_marka_v asura_n.a_m...(MS 4.6.3 (81.1; S'Br 4.2.1.6) (Hillebrandt, opcit., II, pp. 265-270).

In Yasna, parallels with the Fire-Temple worship in the Avestan tradition are apparent. In the Vedic tradition, the yajn~a is brought into the context of the sam.ska_ras and cosmic inquiry or dharma, the ordering principle; in the Avestan tradition, the yasna is taken up to a post-yajurvedic plane of fire-workings in yasna using a soma plant substitute called haoma (soma > haoma which grows on the mountains, Haraiti in particular.Yasna 10.4, 10-12,17: Haoma is placed on the high montain Haraiti by a skilful god, whence holy birds carried it everywhere to the heights, where it grew both on the lofty tablelands and in the mountain valleys). (cf. H.D. Griswold, 1971, The Religion of the Rigveda,Delhi, Motilal Banaridass, p.217). In the Vedic tradition, the Kr.s.n.a Yajurveda is a combination of the mantra and bra_hman.a portions. The Yajurveda ritual thus, is a development from the ritual of the R.gvedic period. A Bra_hman.a gives the meaning of mantras, the origin and significance of a ritual; a S'rautasu_tra is an orderly description of each Vedic ritual. There are clear indications that Avesta is a post-Vedic tradition both in content and in language cognates and Avest may in

fact relate to the su_tra period. This stage of evolution of the Vedic ritual (exemplified by the Yajurveda, the Bra_hman.a and the S'rautasu_tra) is, perhaps, coterminus, in time, with the evolution of the Avestan haoma ritual tradition. (C.G. Kashikar, 1964, The Vedic sacrificial rituals through the ages, in: Indian Antiquary, Vol. 1, No.2, Bombay, Popular Prakashan)

A_s'vala_yana Gr.hyasu_tra A_G1.3.10:
tad es.a_bhiyajn~a ga_tha_ gi_yate: pa_kayajn~a_nsama_sa_dyaika_jya_n ekabarhis.ahekasvis.t.akr.tah kurya_nna_na_pisati daivate:
In this connection, thefollowing sacrificial ga_tha_ is sung. 'If one has (before one, the performance of different) pa_kayajn~as (at the same time), one should perform them with the same common A_jya, barhis and the same common Svis.t.akr.t (oblations), though the deity (of these pa_kayajn~as) may not be the same.' NOTE: The use of the term 'ga_tha_' is significant and parallels the Avestan tradition of ga_tha_s, a clear indication of the chronology of the R.gvedic > Avestan traditions during the Su_tra times.

Iranian haoma hymns, treating haoma as sacred, are in the Younger Avestan language, in which texts continued to be composed in the Hellenistic period, and perhaps even later. (David Stophlet Flattery and Martin Schwartz, 1989, Haoma and Harmaline: The botanical identity of the Indo-Iranian sacred hallucinogen 'Soma' and its legacy in religion, language, and middle eastern folklore, Berkeley, Univ. of California Press, p. 10, n. 10). Avestan barezis., baresman (Zoroastrian barsom; Persian ba_lis. meaning 'cushion') are strewn than held in the hand; this is cognate with Vedic barhis. An important part of some Zoroastrian rituals is the tying of the barsom twigs into a bundle. The lexemes may simply refer to woody twigs.

Four classes are mentioned in Avesta: athravan (priest), rathaeshtar (warrior), vastriosha (cultivator) and hutaokhsha (workman), [Ga_tha_ Ha. 48.5, Yasna Ha 19.17).

**Comparisons between Avesta and Post-vedic of sutra periods**

**Evidence provided by Avesta attests the Proto-Vedic Continuity Theory of Bharatiya Languages.**

The Avesta is comparable to the Vedic Gr.hyasu_tras in the liturgical segments of parallel traditions, which evolved after the movements of people after the desiccation of the River Sarasvati--one group moved towards the Helmand region and another towards the Ganga-Yamuna doab. The high office of the Yazis.n (of the Yasna) consisted chiefly in the ceremonial preparation and offering of the Paraho_m (Av. parahaoma), i.e. the juice extracted from the Haoma-plant mixed with consecrated water, milk and aromatic ingredients; this represents a time when the Soma yajn~a had already become a 'ritual' or a liturgical performance, as distinct from the material, metallurgical process delineated in the R.gveda to purify soma, electrum.

The concordances between Vedic texts (of th sutra period, in particular) and Avestan texts are so vivid that it can be averred that Avestan was a continuation of the Vedic tradition which arose on the banks of River Sarasvati and the sapta sindhu region in Bharatam. (Sarasvati_ saptathi_ sindhu ma_ta_: RV).

From the details provided in the annex, it would appear that there is no need to postulate a proto-indo-iranian to explain the concordances in thought and diction between Vedic sutras and Avestan texts related to yasna. Simply, Avestan was a direct derivative from post-Vedic, which evolved into Samskr.tam.

## Annex

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Vedic duels between Indra-Vr.tra are paralleled in Tishtar-Apaosha. Tishtar is an angel who presides over the rains; Apaosha is a demon who stopped the rains. Indra as Verethraghna (Vr.traghna) is an angel called Beheram Yazata; while, Indra as Indar is a demon.

VS XVII.32 notes that Vis’vakarman was created first and then he did the work of creation. Bundehishna notes that Ahuramazda created Vohuman, an archangel who continued the further work of creation. Universe is an egg (Manu. I.5,ff.); also in Avestan (Minokhred 44.8 – a Pahlavi text). RV X.190 described the order of creation: moral law (r.ta in RV, asha in Avestan) followed by the sun, the earth and the wky, so too in Ga_tha_ (Yasna 44.315).

Vedic br.hat sadanam (heaven) parallels Avestan hadhana. (RV IX.113; X.17; 27; X.14.11; Yasna 11.10; 62.6; Dadestan 26.2).

Vedic As’vin-s are Avestan As’pina_. (RV VII.67.10: as’vinau yuva_nau) becomes Avestan as’pina_ yevino. Sarasvati_ is Harakhaiti; Apa_m Napa_t is the same; Trita is Thrita; Vala is Vara; Us.as is Ushangha or Usha (Ushahain Gaha 5); Aramati_ is A_ramaiti; Aryaman is Airyaman; Bhaga is Bagha; Amr.tas are Ameshspentas; pitr.s (RV VI.75.9: sva_durvasadah pitaro vayodha_h kr.cchres’ritah s’akti_vanto gabhi_ra_h) are farohars; yajatras are yazatas; na_bha_nedis.t.ha is nabanazdishta; ks.atra is khshathra.

Dya_va_pr.thivi_ the dual are adored together; so are Asman and Zem (Fra. Yt. 17,23,24,30,37,45,69,71,75); vis’vedeva_h (AV XI.6.19) are Avestan Vispe Yazata (Yasna

1.19; 2.18; Yt. 11.17.17.19); vis'vedeva_h are 32 (RV VII.39.9; AV X.7.10); Vispe Yazata are 32 (Mithra Yt. 61). Evil spirits: Vedic dr.ha is Avestan druj; Vedic ra_ks.asa are Avestan Rakhsa (Yasna 24.12, an evil being); Ya_tu are evil beings in both Vedic and Avestan.

Vedic svar, light of heaven (RV X.68.9) is Avestan hvar (sun); both have comparable epithets: amr.ta-amesh, raya (shining); advartaspa (possessing swift horses). [Khurshed: hvare khshaetem ameshem rayem advart aspem yazamahade].

Varun.a is an asura and the lord of r.ta (mortal realm); Ahuramazda is the lord of Asha (eternal law) (Yasna Ha 44.5; 6,12,19: 46.6). Varun.a prepared a path for the sun (RV I.24: varun.ascaka_ra su_rya_ya pantha_m); so in Yasna 44.3: kheng staremehs dat advanem. Varun.a is sukratu; Ahuramazzda is khratumao; Varun.a and Ahuramazda are maha_n; vis'vavedah-vispavidva_o, suda_nu-hudhanu, amr.tarevah-ameshaspenda, revat (dadha_te)-raevat, arabdha-adhavish, sumr.l.ika-merajdika, uruchaks.us-vouruchashane, bhes.aja-baishajya (RV VIII.42.1; Vendi.19.20; RV 67.4; Ahurayasht 14; RV I.136.6; Ahura Yasna 51.4; RV I.25.5; Gatha Yasna 33.13; VS XXXVIII.34; Yasht7). One of the 101 names of Ahuramazda is Varun.a. Gna_h are wives of Varun.a (RV I.62.8; VIII.28); Genao are the wives of Ahuramazda (Yasna 38.1-2; Gna_h rr Genao are the waters of rain). Ahuramazda's son was Atar, fire (ahurahe mazdao putha); agni was born of the womb of asura (RV III.29.1).

Both Mitra and Mithra are friends of man ans use spies to watch men (spas'a-spas); they are priests (hotar-zaotar); both live in thousand-pillared palaces (sahasrasthu_n.a-hazangrastuna).

In RV VII..1.1 Agni is called atharyu; this is Avestan athravan. Avesta refers to Vedic Agni as Agenya_o – an adjective (Yasna 38.5). Barhis or barsam was spread on the fire-altar (Sraosha Yt. Ha 57.6). Description of Agni: ojasvat-aozonghvat, gr.hapati-vis'vati-nmanopaiti, sakha_-hakha (RV II.36.5; Atashnyaish; RV I.12.2,6; VII.15.2; Yasna 17.11). A_tar is connected with Nairyasangha (Vendidad 19.14); this parallels Vedic Na_ra_s'am.sa.

Vedic Agnigr.ha is Avestan Agnyaga_ra-Agya_ri.

The priest who installed the holy fire was Kair Ushan (later called Kai Kaus, grandfather of Kai Khusru). RV VIII.23.17 (us'ana_ ka_vyastva_ ni hota_ramasa_dayat) also refers to the same act by Kavi Us'ana.

Instructions contained in Gautama Dharmasu_tra (IX.32) or Vis.n.u-Smr.ti (71.32) to preserve the purity of the fire were also applied by Zoroastrians. (Vendidad 18.1).

Four types of fire (AV III.21.1): – jat.hara_gni, aus.adha_gni, as'ma_gni, vaiduta_ni – are Avestan vohufrayan, urvazishta, berezisavangh, vazishta.

There are many concordances between Vedic and Avestan and almost all point to Vedic > Avestan chronology on the grounds of both linguistics and semantics:

Vivanghavat (Vivasvat, father of Yama: RV VI.4.8), the father of Yima-Jamshed is said to have performed the first Soma-yasna (RV IX.26.4 Vivasvat produced Soma). Soma is called zairi (hari). Soma is called a_turasya bhes.ajam (RV VIII.72.17; and haoma dazdi me beshajanama (Yasna 10.9); other comparative cognates are: sukratu-hukhratu; svarsa-

hvaresh; vr.traha_-verethraja; saumyam madhu-haomahe madho). Soma is brought from Mujavat by a Syena (RV I.89.3); Avestan Haoma Yasht notes that it was brought from the mount Alburz by birds. (Haoma Yasht II.10).

In RV IX.34.4 Trita A_ptya prepared Soma. In Avestan, A_thvya second son of Vivanghavat and Thrita was the third son. Thrita was a divine physician. So was Trita. (RV VIII.47.13,14).

"The Avesta knows the beginning or source of the Aryans as Airyana Vaejo (Pahlavi Iran-Vej). The Avestan Vaejo corresponds to the Sanskrit bi_j meaning 'beginning or source'. The Avesta describes it as a place of extreme cold that became over-crowded (Vend. I. 3-4; II. 8-18). ... Whether the Mitannian kings (1475-1280 B.C.) on the upper Euphrates were a direct offshoot of the Aryans or not there names are certainly Aryan, for example Saussatar, Artatama, Sutarna, Tusratta and Mattiuaza (H. Oldenburg: in Journal of the Royal Asiatic Society, 1909, p. 1094-1109)... Mattiuaza, in his treaty with the Hittite king Aubbiluliuma signed in 1380 B.C. at Boghazkoy, invokes not only Babylonian gods to witness the treaties, but Mitra, Varun.a, Indra, and Na_satya in the form in which they appear in the Rigveda (S. Konow: Aryan gods of the Mitani people, 1921, pp. 4-5). They occur in the treaty as ila_ni Mi-it-ra-as-si-il ila_ni A-ru-na-as-si-il In-da-ra ila_ni Na-sa-at-ti-ya-an-na. Since the form for Na_satya is quite different in the Avestan language (Naonhaithya) it is argued that the Mitannian did not speak Iranian but Indo-Aryan (E.Meyer: Sitzungsberichte der K. Preuss. Akad. der Wissen, 1908, I, p. 14f.)... The name for 'fire' in the Persian Avesta is quite different, being atar, and this does not occur in the Indian Veda except in the Vedic proper name Atharvan, which corresponds to the Avestan name of the fire priest. Agni, as a messenger between gods and man, was known to the Vedas as Nara_-s'amsa. This corresponds with the Avestan messenger of Ahura, Nairyo_-sangha." (R.A. Jairazbhoy, 1995, Foreign Influence in Ancient Indo-Pakistan, Karachi, Sind Book House; note the use of the word san:ga in the Sumerian substrate language to connote a priest. san:ghvi_ (G.) means a priest leading the pilgrims).

Other parallels are in ceremonies: sautra_man.i- stoma, ba_ja and pravargya-paragaru. (RV I.5.8: tva_m stoma_ avi_vr.dhan tva_muktha_ s'atakrato sanodimam va_jamindrah sahasrin.am). Vedic a_pri_ hymns are paralleled by Avestan Afringan recitals. The Ga_hanaba_r of ancient Iran are paralleled by the ca_turma_sya is.t.ayah of Bha_rata and both are seasonal ceremonies. AB IV.24,25; I.3 note the nine principal days of dva_das'a_ha yajn~a; this is paralleled by the bareshnum (purification) ceremony of nine nights (Vendidad Chap. 9).

Apa_m Napa_t may be an appellation of Varun.a and hence may be Ahura *Vouruna of Avestan, the High Lord, ahura berezant. In the R.gveda, waters are the 'wives' of Varun.a, varun.a_ni )(RV 2.32.8; 7.34.22). Waters are Ahura's wives, ahura_ni_ (Y. 38.3).

Yama gives a resting place to the dead man (AV XVII.2.37). Yami is his sister (RV 10.10.3); his father is Vivasvat and his mother is Saran.yu (RV X.14.5; X.17.1). Yama was the first mortal that died (AV XVIII.3.13). Yama had owl and pigeon and also two dogs as messengers (AV XVIII.2.11; V.30.6). The dogs Sabala and S'ya_ma_ (AV VIII.1.9) have four eyes, have broad noses and born of Sarama_. They are the guardians of the path (AV XVIII.2.12) where they sit (pathis.adi). [S'va_na is paralled by spana in the Avestan; the concept of hell is common in AV VIII.4.24; V.30.11; Yasna 31.20; Vendidad 3.35; soul was considered immortal: RV X.16.3; Yasna 13.51].

Sanskrit martya_nam ‘of mortals, men’; Avestan masyanam; Old Persian martiyanam
Sanskrit yajna; Avestan yasna
Sanskrit hotr; Avestan zaotar ‘a certain priest’; at present two priests, viz., Zaotar (Skt. Hotr.) and In the Avesta we find Zaotar and Rathwi who are comparable to Hotr. and Adhvaryu of the Vedic tradition.
A_tarevaxs. (Skt. Atharvan) are required to perform Yasna liturgy instead of eight priests in the ancient times. Av.Ha_vanan is a subordinate priest who pounds the Haoma, derived from ha_vana-mortar and pestle used to pound Haoma. A_tarevaxs (Pahl. A_tarvaxs.) is the tender of fire; Fra_bereta_r brings to the Zaotar all the implements and other things required for the ceremonies; A_beretar brings the Holy Water (der. from a_p, water and beret, bringer; the author of the Ni_rangista_n uses a synonym: da_nava_za); A_sna_tar, a_-sna_tr, is a priest who washes and strains the Haoma; Rae_twis.kara (lit. one who mixes) mixes the Haoma juice with ga_m jivya_m (milk); Sraos.a_varez (lit. one who keeps good discipline) superintends the sacrifice and prescribes punishment for negligence or remissness in performing the sacrifice and priestly duties. These seven priests (plus the eighth, Zaotar), performed functions which are now performed by two priests only: Zaotar and the Rae_twis.kara (Ra_twi-Ra_spi_). Ha_ 9-11 are recited in honour of Haoma and the sacred Haoma juice is prepared from the twigs dedicated to him.The officiants of the Soma sacrifice are: Hota_,Maitra_varun.a, Accha_va_ka, Adhvaryu, Gra_vastut, Nes.t.a_, Unneta_, Pratiprastha_ta_,Udga_ta_, Prastota_, Pratiharta_, Subrahman.ya, Brahma_, Bra_hman.a_ccham.si_, Pota_, A_gni_dhra,with their president Sadasya-- a total of 17 officials. Avestan tradition remembers 8 of these functionaries.

In phonology, the Avesta agrees with the Sanskrit in its vowels in general. Skt. dipthong e_ appears in Avesta as ae_, o_i,e_. Skt. o_ appears as Av.ao, eu. Avesta inserts epenthetic vowels: i,e, u (Av. bavaiti = Skt. bhavati; Av. haurva = Skt. sarva). In R.gveda 9.101.3 we come across the phrase duros.am...somam, which may be compared with the corresponding Avesta phrase haomem du_raos.em,meaing: Haoma, which keeps death afar or Haoma of far-spreading radiance... (M.F. Kanga and N.S. Sontakke, eds., 1962, Avesta,_ Part I: Yasna and Vi_sparat, Pune, Vaidika Sams'odhana Mand.a.la). The Vedic hapax os.am 'quickly' may be from older 'burning'; hence duros.a can mean, 'hard to burn', a context which fits the interpretation of soma as electrum subjected to a process of cementation and smelting. According to Bailey duraus'a ttraha means 'an exhilarant draught'. In Khotanese du_ra- 'hard' is used in connectin with uysma_- 'soil' as in uysmi_nai pin.d.ai du_ra_ 'a hard clod of soil' (Bailey 1951: 67-- Des'ana_ 22). Duraus'a = *duraus'ma, 'in hard soil'. This interpretation is consistent with the present thesis that soma meant an ore block, quartz or electrum (gold-silver ore block). In all the three pressings the Manthingraha is drawn together with the S'ukragraha for the two demons S'an.d.a and Marka (i.e. death)...S'an.d.a and Marka are the priests of the Asuras. [cf. PW; MS 4.6.3 (81.1)]...marka is the same as Avestan mahrka and denotes 'death'. [cf. ma_raka ve_tai = killing of metals (Ta.)]

“The prophet’s hymns are laden with ambiguities resulting both from the merger of many grammatical endings and from the intentionally compact and often elliptical style…”.S. Insler: The Gathas of Zarathustra, in the series Acta Iranica, 3rd series vol.1, Brill, Leiden 1975, p.1 In the evolution of thought, Zarathustra is clearly post-vedic opposing some specific yajna practices.

There is a consistent interchange of s and h in words such as: haoma, daha, hepta hindu, Ahura in Avestan and homa/soma, da_sa, sapta sindhu, Asura in Sanskrit. (Vedic Trita and Avestan 'The close affinity in phonology, morphology, syntax and vocabulary etc. has contributed sufficient data for reconstruction of Indo-Iranian mythology. Use of asura (Av. ahura, OP a(h)ura and Skt. asura-) in the sense of 'demon' in late Vedic instead of 'god' as in Av. and OP, and use of daiva (Av. dae_va, OP daiva and Skt. deva-) for 'demon' in Av and OP instead of 'god' as in Skt. and other IE languages shows that at one stage the Indo-Iranian speaking people might have quarrelled with each other as a result of which two sub-groups came out: Iranians and Indo-Aryans.' (Satya Swarup Misra, 1979, The Avestan: a historical and comparative grammar, Varanasi, Chaukhambha Orientalia, p.5) Tritha are soma/haoma pressers) Avestan tradition, Ahur Mazda_ is conceived as a carpenter who fashions the earth from wood and who fashions bodies and souls: ga_us'-tas'a_: da_idi mo_i ya_ gam ta'so_ apas ca urvaras ca: 'grant me thou -- who has created Mother Earth and the waters and the plants' (Yasna 51.7); hyat na_ mazda_, paourvi_m ga_eoasca tas'o_ dae_nasca_: 'since for us, O Mazda, from the beginning Thou didst create Bodies and also Souls' (Yasna 31.11)(The Divine Songs of Zarathushtra, pp. 682-3, pp. 210-1). gaus = ga_v (Skt. gau). The phrase mahigauh in RV refers to the earth. Tas'a is from the root tas' (Skt. taks.) = to create, to fashion; to hew, to cut. The cognate lexemes are: technos (Greco-Roman), tas'yati (Lith.) Varun.a and Mitra are called asura_ (RV 1.151.4; 7.36.2; 7.65.2). Mithra is mentioned with Auramazda_ and Anahata in old-Persian cuneiform inscriptions. (Spiegel, Die altpersischen Keilinschriften, 2nd ed., p. 68). In Armenia, there was a shrine dedicated to him. (Gelzer, 'Zur armenischen Gotterlehre', Sitzungsberichte der Ko_nigl. Sachsischen Gesellschaft der Wissenschaften -- SBKSGW, XLVIII, 1896, p. 103). Mithra is mentioned with Auramazda_ and Anahata in old-Persian cuneiform inscriptions. (Spiegel, Diealtpersischen Keilinschriften, 2nd ed., p. 68). In Armenia, there was a shrine dedicated to him. (Gelzer, 'Zur armenischen Gotterlehre', Sitzungsberichte der Ko_nigl. Sachsischen Gesellschaft der Wissenschaften -- SBKSGW, XLVIII, 1896, p. 103).

In Vr.tra, Darmesteter notes the concordance between Avestan verethra and Vedic Vr.tra, the latter an ancient name of the cloud which encloses the light or the cows and defines Vr.tra as 'the enveloper who shuts them (thelight and the waters) up in his cloud-cavern' (Ormazd et Ahriman, pp.97, 367). In RV 3.33.6, he is called the paridhi, the enclosure of the rivers. In the Avesta, Soma is Vr.trahan and possesses sharp weapons; Haoma is veretrajan and hurls his vadare (Yasna 9.30 ff.); this is an assignment of R.gvedic functions of Indra to Haoma in the later-day Avestan tradition. Haoma is zairido_itra, 'golden-eyed' (Yasna 57.19).

"Interestingly, the very term ceramics which belongs to the Latin ceramicus, has linguistically descended from the Greek root kerannumi which is equivalent to the Vedic s'r.n.a_ti (= s'ri_) and Avestan sara…both meaning to mix. This is explicitly evident from its several derivatives, such as kermos 'potter's earth or clay', kera_meia 'potter's craft', kerameion 'potter's workshop'…The notable evlutes of s'r.n.a_ti-s'ri_ are s'arma and s'aran.a which denote in the R.gveda the dwellings made of clay. These are comparable to Avestan saram (Yasna 41.6) and saramno (Yasna 49.5; 8; 53.3) which possess almost a similar sense…" Soma's s'ri_ is milk; s'ri_ is prosperity; many times in RV, the term abhi-s'ri_ is used to intensify s'ri_; in RV Khila_ Su_kta, cikli_ta or 'purchased Soma' is designated as the son of S'ri_:

References are to Usha R. Bhise, 1995, The Khila-Su_ktas of the R.gveda_ A study, Bhandarkar Oriental Series No. 27, Poona. The S'ri_su_kta is a part of the Khila su_kta with

19 verses. Ja_tavedas is invoked to bring in s'ri_. Ka_ty. S'r.S. (4.15.4) suggests the offering of oblation early in the morning in Agnihotra to attain s'ri_. A_p. S'r. S. (4.2.1) notes that s'ri_ is brought by chanting a mantra in the dars'a-pu_rn.ama_sa yajn~a. Verse 2.6.12 reads as follows: a_pah sravantu snigdha_ni cikli_ta vasa me gr.he ni ca devi_ ma_taram s'riyam va_sayam me kule Trans.: May the friendly waters flow. O oft-purchased (Soma), stay in my house. Make the divine mother Prosperity reside in my family. Bhise notes: cikli_ta is traditionally regarded as the son of s'ri_. The word sound unusual because of the cluster kl. On applying the law of 'ralayorabhedah', the word may be restored as cikri_ra PPP. From the Redup. Base of kri_, 'to purchase,' cikri_ta is soma that is purchased by the sacrificer before heperforms a soma-sacrifice. The word, thus, has reference to the ceremony of Somakrayan.a A second give-away is in Verse 2.6.17 which suddenly refers to 'mud' (which is obviously associated with any quartz ore block with protruding mineral streaks): kardamena praja_ sras.t.a_ sambhu_ti gamaya_masi adadha_dupa_ga_dyes.a_m ka_ma_n sas.rujmahe Trans.: The progeny has been created by the mud. Let us urge it towards prosperity. He (the priest) has deposited (the soma) has approached (the patrons), whose wishes were released by us (towards the gods). Bhise notes: praja_ = of the soma plant; gamaya_masi = releasing the streams of soma in honour of gods leads one to prosperity. Verse 2.7.1 (a hymn which can be grouped with the earlier s'ri_su_kta): cikli_to yasya na_ma taddiva_ naktam ca sukrato asma_n di_da_sa yujya_ya ji_vase ja_tavedah punantu ma_m devajana_h Trans. O Ja_tavedas, possessed of good mental power, one whose name is Cikli_ta (purchased soma) has by day and night shone for us for companionship and life. May the divine people purify me. Bhise adds: punantu etc.: this line occurs at RV 9.67.27 in the context of purification. Taitt. Br. 1.4.8.1 includes this as a purificatory mantra in the performance of Va_japeya yajn~a. "The mention of Cikli_ta 'the oft-purchased soma' is a corroborative piece of evidence about the sacrificial set up in which soma is an indispensable element. The adjectives jvalanti v.4, pin:gala_ v.13, yas.t.i v.14, undoubtedly refer to soma-plant. Judging as a whole, the hymn (2.6) is a prayer for the prosperity of sacrificial materials like soma, cattle food (pus.t.a) which ultimately yields milk etc. used in sacrifices, a flawless build of cattle, kari_s.a (the dust strewn around sacrificial altar). Only on such assumption can be satisfactory explain the expressions like 'yasya_m vindeyam (vv.2,15), 'manasah ka_mam…va_cah satyam' (v.10) and words like ki_rti, vr.ddhi (v.7). Thus, the connotation of S'ri_, as we get it here, is the prosperity of sacrificial materials and particularly of soma. But there is an undercurrent which believes that S'ri_ is the abhima_nini_ devata_, which is a step towards her deification in the Gr.hyasu_tras where sacrifices are offered to her. Cikli_ta. In the same su_kta, we come across a curious word cikli_ta who is said to be the son of S'ri_ by the tradition; likewise, Kardama and A_nanda are also believed to be the sons of S'ri_. The origin of this tradition may be traced to v. 12 of the S'ri_su_kta in which cikli_ta has been requested to establish Mother S'ri_ in the house of the poet-seer…The first verse of the next hymn (2.7.1)…Here Cikli_ta has been identified with Ja_tavedas in unambiguous terms. It may be pointed out that the S'ri_su_kta as well as the following two hymns are grouped together, as all of them have Ja_tavedas as their chief deity. V.19, i.e. the concluding verse of the S'ri_su_kta appears also as the concluding verse of both of them. It is a prayer for purification, increase of wealth, freedom from sin and difficulties…In the S'ri_su_kta itself, the brilliance of soma-plant has been emphasized (vv. 4,5,13) and its golden appearance as well. Thus, brilliant appearance also forms a basis of identification of Agni Ja_tavedas and Soma Cikli_ta." (pp. 20-22). The purification of Cikli_ta soma, the oft-purchased yajn~a ingredient is the road to s'ri_, prosperity. In the toposheets of Survey of India, close to Sarasvati Nadi_ near Adh Badri is shown a place called Lohargad.h. The local revenue officials informed me for time immemorial, licences have been given to gold-panners in this

place who pan for gold from the river-sands of the hiran.yavartini_ Sarasvati_. Buy the quartz and add the vasati_vari_ waters from the Sarasvati_ in the process of agnis.t.oma to yield the purified metal, which is prosperity personified. Thus, the Khilasu_kta corroborates the arguments provided elsewhere that the reference s to soma in the R.gveda are references to the process of purification of quartz (elelctrum) ore to produce potable gold and silver. Verse 2.6.1 of the S'ri_su_kta reads: Hiran.yavarn.a_ harin.i_ suvarn.arajatasraja_m Candra_m hiran.mayi_ laks.mi_ ja_tavedo mama_ vaha Trans.: O Ja_tavedas, bring unto me Prosperity which has the colour of gold, is possess of hari (soma), is wearing a garland of gold and silver, is lovely and full of gold. Bhise notes: harin.i_m: hari stands for soma…The repeated reference to gold emphasizes the brightness of soma. Rajata: the silvery appearance of the soma at night. One does not have to search for an ephedra or a divine mushroom to gain prosperity processing soma. Any organic plant product would have been reduced to pure carbon if subjected to five days and five nights of incessant firing at around 1500 degrees C. The references to gold and silver in the context of cikli_ta and s'ri_ are clearly direct references to the purchased ore being reduced to the shining, bright, element metals: gold and silver. Ephedra may have become a ritual substitute when the raw-material sources became tough to access as the pastoral metallurgists moved along the banks of River Sarasvati_ and after her desiccation, towards the Helmand, towards the Gan:ga_-Yamuna_ doab and south of Gujarat. The references to asura among the Mun.d.as (near Santal Paraganas), metal workers par excellence may point to a substratum of R.gveda which was nurtured in the Mun.d.a country close to the banks of the River Sarasvati_. Of course, soma is the only (metallurgical, purificatory) process elaborately described in the R.gveda. No wonder, soma constitutes the very essence (rasa; note: rasava_da = alchemy; the term in Ancient Tamil for refined gold is vetaka-p-pon-) of the R.gveda and no wonder, the poet-seer is often seen referring to the devata_s (allegories of the sacrificial materials used in a yajn~a) to bestow him with material prosperity.

RV 4.41.8:s'riye_ na_ ga_va upa soman asthuh indram giro varun.am memani_s.a_h,'just as the milk has gone to Soma to become his ornament, so have my songs to Indra, my thoughts to Varun.a'.

Sanskrit varna ‘colour, to choose’; root, var- ‘to choose’, as in swayamvara ‘girl’s choice’; Avesta varena ‘to put faith in’

Sanskrit mitra; Avestan mi(theta)ra, mithra
Sanskrit arya; Avestan airya; Old Persian ariya
Sanskrit sapta ‘seven’; Avestan hap[ta
Sanskrit sarva; Avestan haurva ‘ever, all, whole’
Sanskrit ksayati, kseti ‘dwells’ ; Change of meaning in: Avestan xsayeiti "has power, is capable"
Sanskrit pra ‘forth’; Avestan ‘fra’
Sanskrit putra ‘son’; Avestan pu(theta)ra; Old Persian pussa
Sanskrit duhitr- "daughter" (cf. Greek thugáter). Avestan dug[{schwa}]dar-, du{voiced velar fricative con.}dar-.
Sanskrit gabhira- (with i for i) ‘deep’, but Avestan jafra-
Sanskrit dha "set, make," bhr, "bear," gharma- "warm," but Avestan and Old Persian da, bar, and Avestan gar[{schwa}]ma-.

Pronoun form Sanskrit yu_yam ‘you’; Avestan yus, yuz [{schwa}]m "you" (nominative plural)
Sanskrit vayam "we" (Avestan vaem, Old Persian vayam).

**Annex: Mleccha glosses**

Semantic cluster: angirasa, shell-lime, wood

Charcoal: Skt. anga_r; Hindi ingel; anggu (Semang.Jur.); jeng-ka, jengkat (Sakei.); nying-kah (Senoi.); Embers: engong o_s'; ingung us (Semang.); burning embers: rangok (Khmer); Firewood: api (Jak.); fire-logs: anggng (Bes.)

Bengali kali cu_.; cf. ka_lo (Sak); kala_k (Sem.)

Wood: Bengali jhop, jhor., jha_r.; cf. jahu (Sem.); jehu_p chu (Mon); cho (Khmer); Tree = jehu~, jihu (Sak.)

Semantic cluster: plough, arrow

Skt. la_ngala, la_ngula, linga; Khmer anka_l, cam lanan, lanal lanar; Khasi ka-lynkor; Tembi tenga_la, Malay tengala, tanga_la, Batak lingala, Makassar nankala

Arrow: Skt. ba_n.a; Mon po_h, pah 'to throw the stones with a bow'; pno_h 'this bow'; Khmer, boh 'to throw, shoot to husk (the cotton); phno_h 'card for cotton'; Bahnar ponah, panah 'to draw the bow'; Curu: panan 'bow'; Kon-tu: panen 'cross-bow'; Sedang: ponen, monen 'cross-bow'; Halang: menen 'cross-bow'(Jean Przyluski, 1921, Non-aryan loans in Indo-Aryan in, PC Bagchi, opcit, pp. 19-21). Sumerian pan 'bow'.

Semantic cluster: coconut, mustard, rice, banana, betel, cotton

Malay niyor (coconut), niyor (Sak. and Sem.); fruit: ple, phlei, etc., kolai (Tareng); kolai (Kontu); na_rikela may be derived from equivalents of niyor (coconut) and kolai (fruit), combined. cf. SK Chatterji, 1928, Some more austric words in Indo-Aryan, in PC Bagchi, opcit., p. xx.

Skt. sarsapa = Pkt. sa_sava; Malay sesawi (husked rice) Skt. tan.d.ula, Beng. ca_ul; Middle Bengali ta_~r.ula, ta_ula, ca_ula; cf. cengrong, cen-er-oi, ceng-goi, ng-roi (Sakai); cendaroi (Senoi); jaroi, caroi (Sak.); cooked rice: caroi (Sak.), sro_ (Mon), srauv (Khmer).

What are the likely early words for 'paddy'? We would suggest two candidate semantic clusters, all indigenous, autochthonous bharatiya; we will leave it to linguistic pundits to unravel the munda, ia and dravidian -- even South Chinese – genetic relationships (which we opine, are likely to be figments of linguists' imagination):

val (pl. valkul) grain of unhusked rice (Kol.); valku pl. paddy, rice (Nk.)(DEDR 5287). varaku-c-campa_ a kind of paddy, sown in the months of a_n-i, a_t.i, and a_van.i, and maturing in six months (Rd.M.44); varaku-c-cir-u-kur-uvai a kind of paddy, sown in the season of a_van.i to ka_rttikai and maturing in four months (Rd.M. 45)(Ta.lex.) alaku grains of paddy, ear of paddy or other grain (Ta.); algu rice obtained from paddy without boiling it

(Kui); alkhr.a_ parched rice (cyu_r.a_ (H.) th paddy is first steeped in tepid water, then parched, finally unhusked by means of a wooden pedal and winnowed)(DEDR 255). Boiled rice: lay boiled rice (Pe.);lay id. (Mand..); lahi id. (Kuwi); la_h'i boiled mand.eya grain (Kuwi)(DEDR 5186). Parched grain: la_ja parched grain (VS.Pali); la_ya id., dried rice (Pkt.); la_wa_ fried unhusked rice (N.); burst parched rice or other grain (Bi.); parched grain (H.); la_i_ id. (H.); la_hi_ parched rice or wheat (M.); lada parched grain (Si.)(CDIAL 11011). vri_hi_ (a type of paddy)(Car. Su.27.15,33). ir- an.kal variety of coarse paddy sown in July, and harvested after six months (Ta.lex.) arici-k-ka_n.am an ancient tax (I.M.P.Tp. 234); arici rice without husk; any husked grain (Tamir..na_. 22); vari (Te.); ari (Tu.); oruza (Gr.)(Ta.lex.) nakarai a kind of rice (Ta.); navarai a kind of paddy (Ta.); navira, naviri, nakara a rice that ripens within two or three months; navara id.; paspalum frumentaceum (Ma.); navara a kind of grain (Tu.); navare a kind of rice (Tu.); nivari, nivvari oryza (Te.); ni_va_ra wild rice (Skt.)(DEDR 3614). ni_vara wild rice (VS.); ni_varaka (Sus'r.); ni_va_ra wild rice (Pali); niwar a kind of hardy rice growing at high altitudes (K.); nya_r wild rice (H.); nava_r, nama_r rice growing spontaneously (G.)(CDIAL 7571).

Contrast these with words used for husked paddy or rice:

So. sArO/ sAr `paddy'. Sa. hoRo ~ huRu `paddy, the rice plant (Oryza sativa,L.)'.Mu. huRu(K) `rice'. !equals Mu. baba Bh. huRu `rice'.Tu. huRu `rice'.KW u`Ru`@(V244,M073)

ca_ula_ pl., cavala rice (Pkt.)[Poss. of ultimately of same non- Aryan origin as tand.ula]; ca~_uru, ca~_varu a grain of rice (S.); ca~_uro pertaining to husked rice (S.); ca_val husked rice (L.P.); ca_vul (L.); ca_var (P.); ca_ul (P.B.); caul (P.); cau (WPah.); cau~l (Ku.); ca~_wo_w (Ku.); ca~_wal (N.H.); ca_mal (N.); sa_ul (A.); ta_ula (OB.); ca_l (B.); ca~_ul.a (Or.); ca_ul.a, ca_ura (Or.); ca_ur Bi.Mth.Bhoj.); ca_wal (H.); ca~_war (H.); ca_vala (OMarw.); ca_val. usu. pl. (G.)(CDIAL 4749). cauret.ha_, caurat.ha_ rice soaked and dried and pounded (Bi.); cauret.ha_ rice ground up with water (H.)(CDIAL 4750). s'a_li growing or unhusked rice (MBh.);grains of rice (R.); s'a_lika of rice (Skt.Pali); sa_li rice(Pali.Pkt.); sal, sali (Gypsy); salima (Ash.); seli_, salima_ (Wg.); sali (Kt.); growing rice (Dm.); sa_l (Pas'.); so_le (Wot..); sa_li_ (Kho.); se_l (Bshk.); sa_l (Tor.); shaeyl (Mai.); se_li_ (Phal.); sili_ rice (Pr.); sha_li_ (Bashg.); sa_ri_ unhusked rice (S.); saria~_ rice (L.); xa_li principal variety of transplanted rice (A.); sa_l, sa_il a kind of rice (B.); sa_l.i growing or unhusked rice (Or.); sa_ri (Bi.); sa_l (H.); sa_l. (G.M.); sa_l.iyu~ (G.); sa_l.i_ (M.); hal, al (Si.)(CDIAL 12415).

buvva 'cooked food' used while feeding children (Telugu) So. ba.ba (M) `cooked rice'. !occurs only in children's speech Kh. ba? `rice in the hull, paddy'. Ju. bua `rice'. !perhaps from ba.ba Mu. ba.ba `the rice-plant, paddy (%Oryza_sativa,_Linn.), or rice in the husk'. Ho ba.ba `the rice-plant, paddy (%Oryza_sativa,_Linn.), or rice in the husk'. Ku. ba.ba `cauli rice'.@(V004) See baba in hond.e baba: hond.e the point to be reached in parboiling paddy before husking it; hond.e baba parboiled rice; hond.e to parboil paddy to prepare it for quick and easy husking (Mu.); ondna_ (Oraon)(Mu.lex.)

Banana, plantain: kelui (gelui, glui), Sak. Kor. Gb; teluwi or keluwi. Sem. Jarum; telu_i. Sem. kedah; Skt. kadali_, kandali_

Betel: Alak balu, Khmer mluv, Bahnar bolou, Rongao bolou, Sue' malua, Lave melu, Stieng mlu, Kha blu, Palaung plu_; Sanskrit ta_mbu_lam, Pali tambu_li, tambu_lam, Prakrit tambolam, tambol. "A hindu caste of Bengal, which has for its main occupation the

cultivation and the sale of betel, is called ba_rui < barai formed from *ba_r- a word which is no longer in use in Bengali, and the suffix –a-i which markes appurtenance. The name occurs in a village name Ba_rayi_pad.a_ in a copper-plate grant of Vis'varu_pa Sena, c. 12th-13th cen. Ba_rui, when Sanskritised, gives ba_ru-ji_vin 'who lies on *ba_ru.' There is also the word baroj which means the kind of pergola in which the betel vine is grown. Ba_r-, bar- evidently designates betel and is clearly related to the Indo-Chinese forms balu, etc." (Jean Przyluski, 1921, Non-aryan loans in Indo-Aryan in, PC Bagchi, opcit, p. 18).

Cotton: Skt. karpa_sa; Crau: pac, bac; Stieng pahi; Khmer: ambas, amba_h; Bahnar: kopaih; Sedang: kope; Kuoi: kabas; Kco: kopas; Malayan, Javanese: kapas; Batak: hapas; Cam: kapah

Semantic cluster: crab, peacock

Skt. kamat.ha, karkat.a, Bengali ka_t.ha_, ket.e; cf. katam (Malay); khata_m (Mon); kedam, ktam (Khmer); kotam (Bahnar); tam (Stieng); kat-kom (Santali).

R.gveda: mayu_ra 'peacock'; Santali marak; Savara mara; Cam amrak; Malay mera; Crau brak; Stieng brak; Mon mra_; rak' 'to weep, to beseech, the call, cry or note of a beast, bird or insect'; marak' rak' 'peacock-crow which is earlier than cock-crow'.

Semantic cluster: man, woman

Bengali ko_l 'man'; Munda: 'man' har., horol, har.a, hor., koro cf. galu 'man' (Sumerian)

Woman: ku_r.i_, e_ra_, kor.i, kol (Munda); daughter 'kuri hapan'

Semantic cluster: water/ocean

A semantic cluster = water/shore is found in the following lexemes: bAr = water (Hindi); vAri = water (Sanskrit); bArAn = rain (Hindi); bArAni = land watered by rain (Hindi); bharu = sea (Pali, Sanskrit); maru = desert; sand-desert (Pali); mariyAdA = shore (Pali); [cf. Indo-European lexemes for sea: mare (Latin); muir (Irish); marei (Gothic); (are-)morica (Gaulish); mArEs (Lithuanian); morje (Slavonic).

Jean Przyluski, in VaruNa, god of the sea and the sky (JRAS, July 1931, pp. 613-622) provides an etymological excursus to reconcile the occurrence of similar-sounding words in the north-western Indo-European dialects and also in Indo-Aryan by suggesting a proto-Austro-Asiatic root for the words. For e.g., he suggests "the non-Aryan word bharu, like its Sanskrit synonym kaccha, signifies low-lying land, shore, swamp; and, in fact, the compound bharu-kaccha designates a region adjoining the sea and the capital of that region. bharu(kaccha) and maru(bhUmi) form part of the geographical nomenclature of the mahAbhArata... After the tIrthas of the Sindhi the 'Bengali' recension (of dig-varNana of the rAmAyaNa) names maru and anumaru, referring probably to the deserts near the lower-course of the Indus. In the different recensions of the rAmAyaNa the description of the western region ends with the mountain asta 'the sun-setting', where is erected the palace of varuNa. This curious indication is in perfect agreement with 'Geographical Catalogue of the Yakshas in the mahAmayUrI" (ed. Sylvain Levi, Journal Asiatique, 1915, I, pp. 35 sqq.). In verse 17 we read -- bharuko bharukaccheshu... that is to say-- 'the yaksha bharuka dwells

among the people of bharukaccha.' Now one of the two Chinese translators of this catalogue has rendered bharuka by shoei t'ien 'god of the water', which suggests varuNa".

Semantic cluster: ocean/shore/low-lying land

Przyluski hypothesizes a proto-indic root: bar; enlarged to bara (Sumerian) and baru (Austro-Asiatic), and by addition of the suffix -na, to get baruna, which is close to the Vedic varuNa. He also suggests that in certain austro-asiatic languages the initial undergoes complete reduction, e.g. Bahnar Ar, or. Delitzsch (Sumerisches Glossar, pp. 64-5) assigns the following semantic values to bar: (i) on the outside, outside; hence, bara = out, away; (ii) free space, desert (contrasted with human settlements); hence three derivatives in Sumerian: gu-bar-ra = free space, steppe, desert; ur-bar-ra = jackal; sgga-bar-ra = wild goat.

Does this agreement between austro-asiatic and sumerian posit a palaeo-asiatic radical: bar? The austro-asiatic words cited by Przyluski are: baroh = low-lying country, sea-shore, sea (Malay); baruh = plain, flatland; baruk, barok = shore; bAruh = sea (dialects of Malay peninsula); Ar = marsh, swampy district; or = low-lying damp terrain near to watercourses (Bahnar); [cf. haor = delta marsh-land (Bengali); bahr = stretch of water(Gueze or classic Ethiopian); baraha = desert (Amharic)]; "Annamite has preserved the initial, but the final liquid has become i : *bar - bai = coast, shore, strand". [Could the final liquid also explain the equivalent Tamil word: neytal?]

Arabic word bahr = sea, large river (Nile is called bahr by the natives). "The Noldeke (Neue Beitrage zur semitischen sprachwissenschaft, 1910, p.93) gives as the primary sense 'depression' (rather than 'surface'; cf. aequor); whence (1) sea, (2) land, low-lying land etc. A feminine form bahret has the sense of 'pool', 'basin', 'fish-pond', and also 'land', 'country-side'. Between bharu, maru, and bahr we have, therefore, in addition to the phonetic similarity, a quite curious accord in a double meaning, 'sea', 'low-lying land' or the like. Should not the word bahr, which does not belong to the Semitic in general, have the same origin as Sanskrit and Pali bharu?" (Father Paul Jouon cited in Przyluski, op cit.) [See http://spaces.msn.com/members/sarasvati97 on sarasvati hieroglyphs and related lexemes as repertoire of metallurgists/artisans dealing with furnaces, minerals, metals and alloys.]

See introduction to Indian Lexicon at p://www.hindunet.org/saraswati/Indian%20Lexicon/000int.pdf (with footnotes)

http://www.hindunet.org/hindu_history/sarasvati/dictionary/0000intro.htm

Knowledge innovations, through writing systems, as glyptic representations of metal artisan guilds' workshop inventory and mleccha/meluhhan language

Glyptic themes

The continuing tradition of Sarasvati hieroglyphs helps validate decoding hieroglyphs of the so-called Pas'upati seal as the inventory of a mint or smithy. See http://spaces.msn.com/members/sarasvati97 The entry is titled: Dr. Hrishikesh Shenoy's discovery of an Ujjain Jeweller's Seal The album is titled: Ujjain Jeweller's 6" sq. seal with Sarasvati hieroglyphs.

As an explosion of knowledge occurred to create alloys using two or more minerals, distillation apparatus, furnaces, another innovation also occurred in using glyphs to represent knowledge, say, of the tools and devices used to create such alloys and to represent in writing the vocalized names of these minerals, metals and alloys. The result was the innovation of Sarasvati hieroglyphs to record the artisan workshop's, smithy's, mint's inventory. This innovation occurred circa 3300 BCE as evidenced by a potsherd with early writing discovered at Harappa. This could perhaps be the earliest writing system in the world represented by seafaring smiths of Meluhha who traveled far and wide in search of alloying minerals such as zinc and tin.

The decipherment is drawn from a review of the entire corpus of over 4000 artifacts with inscriptions. The review is documented in Sarasvati, encyclopaedic set of 7 books. The code of Sarasvati hieroglyphs is simple. The glyphs are read rebus using mleccha/meluhhan language lexemes. Orthographic style is uniform across a vast region stretching from Mesopotamia to Meluhha.

Orthographic elements are ligatured to achieve economy of space to represent innovations evolved in metal artisan guilds' workshops or just, smithy or mint. What were created as glyphs were NOT mythical representations but minerals, metals and types of furnaces.
A few examples may be cited to establish the code of Sarasvati hieroglyphs, without any special pleading or leaps of faith.

For example, a man's body is ligatured to the hind-part of a bull (with hoofed legs and tail). What did this ligature connote?

d.hagara_m = pl. the buttocks, hip (G.) Rebus: d.han:gar = blacksmith (H.)

Why is a waistband ligatured to a one-horned heifer? To represent kamarsa_la, artisan's workshop.

karma_ras'a_la = workshop of blacksmith (Skt.) kamar a semi-hinduised caste of blacksmiths; kamari the work of a blacksmith, the money paid for blacksmith work; nunak ato reak in kamarieda I do the blacksmith work for so many villages (Santali) kammari, kammari_d.u = a blacksmith, ironsmith; kammarikamu = a collective name for the people of the kamma caste (Te.) karma_ras'a_la = workshop of blacksmith (Skt.) kamma_r-asa_le = the workshop of a blacksmith (Ka.); kamasa_lava_d.u = a blacksmith (Te.) kamarsa_ri_ smithy (Mth.) kamba_r-ike, kamma_r-ike = a blacksmith's business (Ka.Ma.) (Ka.lex.) (DEDR 1236).

kamarasa_la = waist-zone, waist-band, belt (Te.) kammaru = the loins, the waist (Ka.Te.M.); kamara (H.); kammarubanda = a leather waist band, belt (Ka.H.) kammaru = a waistband, belt (Te.) kammarincu = to cover (Te.) kamari = a woman's girdle (Te.) komor = the loins (Santali) [Note the pannier tied as a waist band to the one-horned heifer.]

Why a U-shaped wide-mouthed pot? kod.iyum an earthen cup holding oil and a wick for a light (G.)

Why nine leaves? Why petioles of fig-leaf? kamar.kom = fig leaf (Santali.lex.) kamarmar.a_ (Has.), kamar.kom (Nag.); the petiole or stalk of a leaf (Mundari.lex.) Rebus: kamat.a

'smithy'. Substantive: lo 'iron' (Assamese, Bengali); loa 'iron' (Gypsy) Glyph: lo = nine (Santali); no = nine (B.) [Note the count of nine 'ficus' leaves depicted on the epigraph.] damad.i, dammad.i = a ka_su, the fourth part of a dud.d.u or paisa (Ka.M.); damad.i_ (H.) damr.i, dambr.i = one eighth of a pice (Santali) dammid.i = pice (Te.) Grapheme: damad.i, dammad.i = a small tambourine with gejjes (Ka.) Grapheme: damr.a m. a steer; a heifer; damkom = a bull calf (Santali) Rebus: amha = a fireplace; dumhe = to heap, to collect together (Santali)

How to represent a portable furnace for melting precious metals? Say, kamat.a ? Depict a ygic posture of sitting.

kamat.amu, kammat.amu = a portable furnace for melting precious metals; kammat.i_d.u = a goldsmith, a silversmith (Te.lex.) ka~pr.aut., kapr.aut. jeweller's crucible made of rags and clay (Bi.); kapr.aut.i_ wrapping in cloth with wet clay for firing chemicals or dugs, mud cement (H.)[cf. modern compounds: kapar.mit.t.i_ wrapping in cloth and clay (H.); kapad.lep id. (H.)] (CDIAL 2874). kapar-mat.t.i clay and cowdung smeared on a crucible (N.) (CDIAL 2871).

kampat.t.tam coinage, coin (Ta.); kammat.t.am, kammit.t.am coinage, mint (Ma.); kammat.i a coiner (Ka.)(DEDR 1236) kammat.a = coinage, mint (Ka.M.) kampat.t.a-k-ku_t.am mint; kampat.t.a-k-ka_ran- coiner; kampat.t.a- mul.ai die, coining stamp (Ta.lex.)

Glyph: kamad.ha, kamat.ha, kamad.haka, kamad.haga, kamad.haya = a type of penance (Pkt.lex.)

Evidence of Sarasvati hieroglyph of taberna montana, tagaraka, is dated to 3300 BCE (cf. Harvard Harappa Project, 2002 season).

**A note on Ancient Economies**

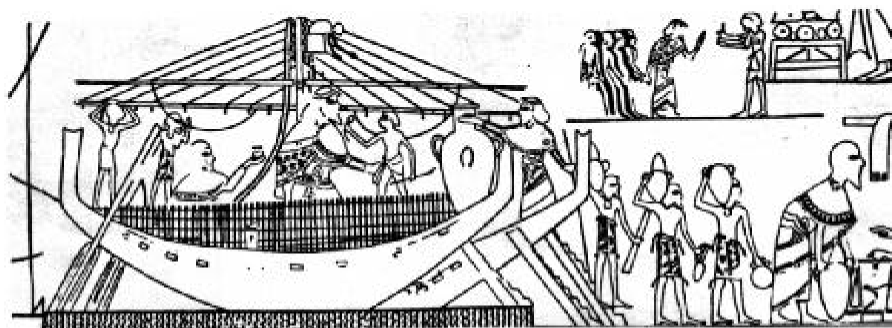
Neumann (1999: 53) cites a loan document from Nippur in which a merchant declares that he will repay the amount lent "if he gets back from his commercial journey (*kaskal*)." I would agree with Neumann that this promise strongly suggests both independent finance and commercial activity. Neumann, Hans. (1999), "Ur-Dumuzida and Ur-DUN." In Dercksen (ed.), Trade and Finance in Ancient Mesopotamia, 43-53. ..

For the Old Babylonian period (ca. 2000-ca. 1600) there is much evidence of nonroyal commercial activity and little evidence connecting merchant (*tamka_ru*) with palace. One example of independent commercial activity is of special interest. In two liver omen texts one Kurû, probably to be identified with Kurû the *tamka_rum* attested in contemporary texts, makes sacrifices of lambs in order to foresee whether his affairs will prosper.

Both texts refer to prospective sales in the market: *ina su_qi_ ši_ma_ti*, literally, "in the buying streets ... One of these texts asks whether Kurû is going to make a profit (*ne_melu*) on some kind of (gem?) stone, whereas the other asks the same about the sale of goods, "market/trade goods", *sachirtu* ... (Wilcke cited by Powell 1999: 11) Powell, Marvin A. (1999), " Wir müssen alle Nische nutzen: Monies, Motives, and Methods in Babylonian Economics." In J.G. Dercksen (ed.) Trade and Finance in Ancient Mesopotamia. Leiden: Nederlands Historisch-Archaeologisch Instituut te Istanbul, 5-23.

In the mid-second millennium at Nuzi in eastern Assyria *tamka_ru* appear on royal "ration lists," but nonroyal individuals also employed their services. Some Nuzi texts show merchants borrowing from independent lenders for business ventures. A lawsuit concerning a merchant who disregarded a royal proclamation fixing a maximum price on slaves also attests to self-employed merchants…

Texts from Ugarit (ca. 1400-ca. 1200), an important north Syrian port, demonstrate individual ownership of cargo ships and also show individuals, including merchants (*mkrm*), paying large sums of gold for trading concessions and the authority to collect harbor taxes. (In one instance the king of Ugarit declared a vessel to be exempt from duty when it arrived from Crete.) A treaty between the rulers of Ugarit and a neighboring state permitted citizens to form partnerships (*tapputu*) for commercial expeditions to Egypt. One text refers to an individual about to undertake a voyage to Egypt with the financial backing of four persons. Some merchants with no explicit royal connections spoke of "my merchants" and the merchants "of my hand." ("Merchants of the hand" are attributed to Tyre in Ezekiel 27.15,21.) Heltzer has gone beyond this relatively clear evidence of nonroyal business enterprises. He believes that Ugarit knew two categories of merchants: *tamkaru sha shepi*, who were dependents of the king, and *tamkaru sha mandatti*, who clearly possessed their own trade goods and for whom there is no direct evidence that they traded with palace goods rather than their own. Heltzer's interpretation has, however, been criticized by Vargyas who suggests, among other points, that *mandattu* may denote private property or royal property.



Three dotted circles appear on the right-most pedestal of the picture showing trade transactions on a river bank in ancient Egypt: Merchants in booths trade with Syrians at the river bank. Scene from New Kingdom tomb of Kenamun, "mayor" of Thebes.

http://members.tripod.com/~sondmor/index-html#A.%20Mesopotamia

**Vedic culture in Sangam times**

There is a temple for Devi Sarasvati in a place called Basara (Vya_sapura) in Adilabad District of Andhra Pradesh, located on the banks of the Godavari River. The sthala pura_n.a states that the Devi was installed by Vya_sa by taking three mus.t.is (handfuls) of sand from the river bed— an extraordinary affirmation indeed of the integrat link of Sarasvati as devi and Sarasvati as river. The appended maps indicate the patterns of ancient settlements right from the foothills of the Himalayas (Ropar) to the Gulf of Khambat (Lothal) and on the Arabian Sea Coast (Prabhas Patan or Somnath and Dwa_raka). It is also significant that Sangam literature of the Tamils notes the claim of the ancient Chera kings that they were the 42nd generation descendants from the rulers of Dwaraka (Tuvarai) and the sage Agastya is revered as the ancient Tamil Muni and the author of the earliest grammatical work in Tamil. Sangam literature is replete with references to the support provided to the growth of Vedic Culture in the Tamil-speaking areas. An important article on the antiquity of relation between

Tamil and Sanskrit is: Sharma, K.V. 1983, Spread of Vedic culture in ancient South India, Adyar Library Bulletin 47:1-1.

"Among the interesting facts that emerge from a study of the progressive spread of vedic culture from the North-West to the other parts of India, is its infusion, with noticeable intensity, in the extreme south of India where, unlike in other parts, a well-developed Dravidian culture was already in vogue… *Tolka_ppiyam* which is the earliest available work of the sangam classics, is a technical text in 1610 aphorisms, divided into three sections, dealing respectively, with phonetics, grammar and poetics… The other available sangam works are three sets of collected poems, being, *pattu-ppa_t.t.u* (Ten idylls), *et.t.u-ttokai* (Eight collections) and *patineki_r..kan.akku* (eighteen secondary texts), which last appears to pertain to the late period of the saµgam age. The ten poems are: *tirumuruka_r.r.uppat.ai, porun.ara_r.r.u-ppat.ai, cir.upa_n.a_r.r.uppat.ai, perumpa_n.a_r.r.uppat.ai, mullaippa_t.t.u, maturaikka_n~ci, net.unelva_t.ai, kuriñcippa_t.t.u, pat.t.inappa_lai* and *malaipat.ukat.a_m*. All the above idylls are compositions of individual poets, and, except for the first, which is devotional and possibly, pertains to late sangam age, are centred round the royal courts of the Cera, Cola and Pa_n.d.ya kings, depicting the contemporary elite scholarly society and youthful life. The second category consists of Eight collections: *nar.r.in.ai, kur.untokai, ainkur.unu_r.u, patir.r.ujppattu, paripa_t.al, kali-ttokai, akana_n-u_r.u* and *pur.ana_n-u_r.u*. All these collections are highly poetic and self-contained stray verses of different poets put together in consideration of their contents. The third category consists of eighteen miscellaneous texts, some of them being collections of stray verses of different poets and some composed by individual authors. They are: *tirukkur.al., na_lat.iya_r, par..amor..i, tirikat.ukam, na_n-man.ikkat.ikai, cir.upañcamu_lam, ela_ti, a_ca_rako_vai, mutumor..ikka_ ñci, kalavar..i-na_r.patu, initu-na_r.patu, tin.aima_lainu_r.r.aimpatu, aintin.ai-y-er..upatu, kainnilai, aintin.ai-yanpatu, tin.aimor..i-y-aimpatu* and *ka_r.-na_r.patu*. The verses in these works also refer to social customs and local sovereigns. The above works picture a well-knit and well-developed society having a distinct identity of its own. The frequent mention, in sangam poems, of the Cera, Cola and Pa_n.d.ya kings as the munificent patrons of the poets… and the archaeological evidence provided by 76 rock inscriptions in Tamil-Bra_hmi script which corrobate the contents of the sangam works, in 26 sites in Tamilnadu (Mahadevan, I., Tamil Bra_hmi inscriptions of the Sangam age, *Proc. Second International Conference Seminar of Tamil Studies*, I, Madras, 1971, pp. 73-106) help to fix the date of the classical sangam classics in their present form to between 100 B.C. and 250 A.D… reference to the Pa_n.d.yan kingdom by Megasthenes, Greek ambassador to the court of Candragupta Maurya (c. 324-300 B.C.?) are also in point. On these and allied grounds, the sangam period of Tamil literature might be taken to have extended from about the 5th century B.C. to the 3rd century A.D… It is highly interesting that sangam literature is replete with references to the vedas and different facets of vedic literature and culture, pointing to considerable appreciation, and literary, linguistic and cultural fusion of vedic-sanskrit culture of the north with the social and religious pattern of life in south India when the sangam classics were in the making… The vedas and their preservers, the bra_hmans, are frequently referred to with reverence (*Pur.ana_n u_r.u* 6, 15 and 166; *Maturaikka_ñci* 468; *tirukat.ukam* 70, *na_n-man.ikkat.ikai* 89, *initu-na_r.patu* 8). The vedic mantra is stated as the exalted expressions of great sages (*Tolka_ppiyam*, Porul. 166, 176). While the great God S'iva is referred as the source of the four vedas (*Pur.a.* 166), it is added that the twice-born (bra_hman) learnt the four vedas and the six veda_ngas in the course of 48 *years (Tiru-muruka_r.r.uppat.ai*, 179-82). The vedas were not written down but were handed down by word of mouth from teacher to pupil (*Kur-*

*untokai* 156), and so was called kel.vi (lit. what is heard, šruti)(*Patir.r.ippattu* 64.4-5; 70.18-19; 74, 1-2; *Pur.a.* 361. 3-4). The bra_hmans realized God through *the Vedas (Paripa_t.al 9. 12-13) and recited loftily in vedic schools (Maturaikka_ñci* 468- 76; 656)… the danger to the world if the bra_hman discontinued the study of the veda is stressed in *tirukkur.al.* 560. If the sangam classics are any criteria, the knowledge and practice of vedic sacrifices were very much in vogue in early south India. The sacrifices were performed by bra_hmans strictly according to the injunctions of the vedic mantras (*tirumuruka_r.r.uppat.ai* 94-96; *kalittokai* 36). The three sacred fires (*ga_rhapatya, a_havani_ya* and *daks.ina_gni*) were fed at dawn and dusk by bràhmans in order to propitiate the gods (*Kalittokai* 119l *Pur.a.* 2; 99; 122; *Kur.iñcippa_t.t.u* 225). *Paripa_t.al* 2. 60-70 stipulates, in line with vedic sacrificial texts, that each sacrifice had a specific presiding deity, that pas'us (sacrificial animals) were required for the sacrifice and that the sacrificial fire rose to a great height. The vedic practice of placing a tortoise at the bottom of the sacrificial pit is referred to in Akana_n-u_r.u 361… *Patir.r.uppattu* 64 and 70 glorify the Cera king Celvakkat.unkovar..iya_tan- who propitiated the gods through a sacrifice performed by learned vedic scholars and distributed profuse wealth amongst them. Another Cera king, Perum-ceral Irumpor.ai is indicated in Patir.r.uppattu 74 to have performed the Putraka_mes.t.hi_ sacrifice for the birth of his son il.amceral irumpor.ai. The Cola ruler Peru-nar.kil.l.i was renowned as Ra_jasu_yam ve_t.t.a co_r..an- for his having performed the ra_jasa_ya sacrifice; another Cola ruler Nar.kil.l.i, too, was celebrated as a sacrificer (*Pur.a.* 363; 400). The Cola kings were also considered to have descended from the north Indian king S'ibi the munificent of *Maha_bha_rata* fame (*Pur.a.* 39; 43). The patronage accorded to vedic studies and sacrifices is illustrated also by the descriptive mention, in *Pur.a.* 166, of a great vedic scholar Vin.n.anta_yan- of the Kaun.d.inya-gotra who lived at Pu_ñja_r.r.u_r in the Co_r..a realm under royal patronage. It is stated that Vin.n.anta_yan- had mastered the four vedas and six veda_ngas, denounced non-vedic schools, and performed the seven pa_kayajñas, seven ***Soma***-yajñas and seven havir-yajñas as prescribed in vedic texts. The Pa_n.d.yan kings equalled the Colas in the promotion of Vedic studies and rituals. One of the greatest of Pa_n.d.ya rulers, Mudukut.umi Peruvar..uti is described to have carefully collected the sacrificial materials prescribed in vedic and dharmašàstra texts and performed several sacrifices and also set up sacrificial posts where the sacrifices were performed (*Pur.a.* 2; 15). *Maturaikka_ñci* (759- 63) mentions him with the appellation pal-s'a_lai (pal-ya_ga-s'a_lai of later Ve_l.vikkud.i and other inscriptions), 'one who set up several sacrificial halls'. The Pa_n.d.ya rulers prided themselves as to have descended from the Pa_n.d.avas, the heroes of Maha_bha_rata (*Pur.a.* 3; 58; *Akana_n-u_r.u* 70; 342)… God Brahmà is mentioned to have arisen, in the beginning of creation, with four faces, from the lotus navel of God Vis.n.u (*Paripa_t.al* 8.3; *Kalittokai* 2; *Perumpa_n.a_r.r.uppat.ai* 402-04; *Tirumuruka_r.r.uppat.ai* 164-65; *Iniyavaina_ rpatu* 1). It is also stated that Brahma_ had the swan as vehicle (*Innà-nàrpatu* 1). Vis.n.u is profusely referred to. He is the lord of the Mullai region (Tol. Akattin.ai 5) and encompasses all the Trinity (*Paripa_t.al* 13.37). He is blue-eyed (Pur.a. 174), lotus-eyed (*Paripa_t.al* 15.49), yellow-clothed (*Paripa_t.al* 13.1-2), holds the conch and the discus in his two hands and bears goddess Laks.mì on his breast (*Mullaippa_t.t.*u 1-3; *Perumpa_n.* 29-30; *Kali.* 104; 105; 145), was born under the asterism Tiru-o_n.am (*Maturai.* 591), and Garud.a-bannered (*Pur.a.* 56.6; *Paripa_t.al* 13.4). Of Vis.n.uite episodes are mentioned his measuring the earth in three steps (*Kali.* 124.1), protecting his devotee Prahla_da by killing his father (*Pari.* 4. 12-21) and destroying the demon Kes'in (*Kali.* 103.53-55). S'iva has been one of the most popular vedic-pura_n.ic gods of the South. According to *Akana_n-u_r.u* 360.6, S'iva and Vis.n.u are the greatest gods. He is three-eyed (*Pur.a.* 6.18; *Kali.* 2.4), wears a crescent moon on his forehead (*Pur.a.* 91.5; *Kali.* 103.15), and holds the axe as weapon (*Aka.* 220.5; *Pur.a.*

56.2). He bears river Ganga_ in his locks (*Kali.* 38.1; 150.9) and is blue-necked (*Pur.a.* 91.6; *Kali.* 142). He is born under the asterism *a_tirai* (Skt. *àrdra*) (Kali. 150.20), has the bull for his vehicle (*Paripa_t.al* 8.2) and is seated under the banyan tree (*Aka.* 181). Once, while sitting in Kaila_sa with Uma_ (Pa_rvati), his consort (*Pari.* 5.27-28; *Par..amor..i* 124), Ra_van.a, the ra_ks.asa king shook the Kaila_sa and S'iva pressed the mountain down with his toe, crushing Ra_van.a and making him cry for mercy (*Kali.* 38). When the demon Tripura infested the gods, S'iva shot through the enemy cities with a single arrow and saved the gods (*Kali.* 2; Pur.a. 55; Paripa_t.al 5. 22-28). *Pur.ana_n –u_r.u* (6. 16-17) refers also to S'iva temples in the land and devotees walking round the temple in worship. God Skanda finds very prominent mention in saµgam classics, but as coalesced with the local deity Murukan-, with most of the pura_n.ic details of his birth and exploits against demons incorporated into the local tradition (*Paripa_t.al* 5. 26-70; *Tirumuruka_r.r.uppat.ai*, the whole work). Mention is also made of Indra. (Balara_ma) is mentioned as the elder brother of Lord Kr.s.n.a, as fair in colour, wearing blue clothes, having the palmyra tree as his emblem and holding the ;lough as his weapon, all in line with the pura_n.as (*Paripa_t.al* 2. 20-23; *Pur.a.* 56. 3-4; 58.14; *Kali.* 104, 7-8). *Tolka_ppiyam* (Akattin.ai iyal 5) divides the entire Tamil country into five, namely, Mullai (jungle) with Vis.n.u as its presiding deity, Kur.iñji (hilly) with Murukan- as deity, Marutam (plains: cf. marusthali_ Skt.) with Indra as deity, Neytal (seashore) with Varun.a as deity and Pa_lai (wasteland) with Kor.r.avai (Durga_) as deity… The sangam works are replete with references to the four castes into which the society was divided, namely, bra_hman.a, ks.atriya, vais'ya, and su_dra… bra_hman antan.a primarily concerned with books (*Tol. Mara.* 71), the ks.atriya (***a-ras'a, ra_ja***) with the administration (*Tol. Mara.* 78) and s'u_dra with cultivation (*Tol. Mara.* 81)… It is also stated that marriage before the sacred fire was prescribed only for the first three castes; but the author adds that the custom was adopted by the fourth caste also in due course (*Tol. Kar.piyal* 3)… one cannot fail to identify in sangam poetry the solid substratum of the distinct style, vocabulary and versification, on the one hand, and the equally distinct subject-matter, social setting and cultural traits, on the other, both of the Tamil genius and of vedic poetry. As far as the grammar of Dravidian is concerned, a detailed analytical study of Old Tamil as represented in *Tolka_ppiyam*, with the vedic s'iks.a_s and pra_tis'a_khyas, has shown that, 'Tolka_ppiyan-a_r clearly realized that Tamil was not related to Sanskrit either morphologically or genealogically… that he deftly exploited the ideas contained in the earlier grammatical literature, particularly in those works which dealt with vedic etymology, without doing the least violence to the genius of the Tamil language'. (Sastri, P.S.S., *History of Grammatical Theories in Tamil and their relation to the Grammatical literature in Sanskrit*, Madras, 1934, p. 231)… It would be clear from the foregoing that during the sangam age there had already been intensive infusion of vedic culture in south India… Both the cultures coexisted, the additions often affecting only the upper layers of society… For novel names, concepts and ideas, the Sanskrit names were used as such, with minor changes to suit the Tamil alphabet (e.g. akin-i for agni, vaicikan- for vais'ya, veta for veda, or translated (e.g. pa_pa_n- for dars'aka, ke_l.vi for s'ruti). When, however, the concept already existted, in some form or other, the same word was used with extended sense (e.g. ve_l.vi for ya_ga; ma_l or ma_yan- for Vis.n.u). Sometimes both the new vedic and extant Tamil words were used (e.g. ti_ for agni)… It is, however, important to note that the coming together of the two cultures, vedic and dravidian, was smooth, non-agressive and appreciative, as vouched for by the unobtrusive but pervasive presence of vedicism in the sangam works. The advent of vedic culture into South India was, thus, a case of supplementation and not supplantation… it is a moot question as to when vedic culture first began to have its impact on dravidian culture which already existed in south India… the age of this spread (of vedic culture) has to be

much earlier than the times of the Ra_ma_yan.a and Maha_bha_rata, both of which speak of vedic sages and vedic practices prevailing in the sub-continent. Literary and other traditions preserved both in north and south India attest to the part played by sage Agastya and Paras'ura_ma in carrying vedic culture to the south. On the basis of analytical studies of these traditions the identification of geographical situations and a survey of the large number of Agastya temples in the Tamil country, G.S. Ghurye points to the firm establishment of the Agastya cult in South India by the early centuries before the Christian era (Ghurye, G.S., *Indian acculturation: Agastya and Skanda*, Bombay, Popular Prakashan, 1977)… the considerable linguistic assimilation, in dravidian, of material of a pre-classical Sanskrit nature, it would be necessary to date the north-south acculturation in India to much earlier times."

**Proto-Vedic as a web of Munda, Dravidian and Mleccha in Saptasindhu region**

Another node of the Vedic-Tamil network web is the Tamil-Munda network web which has yet to be unraveled. A beginning was made by the late Sudhibhushan Bhattacharjee (cf. Bibliography) with a number of works pointing to the possible etyma of Munda languages and some links with Dravidian glosses. This inquiry will certainly take us into the contacts along the Hindumahasagar rim (Indian Ocean Rim) regions explaining why as noted by George Coedes, there are many early Sanskrit Brahmi inscriptions in places such as Laos, Vietnam, Cambodia, Indonesia and Thailand, while the early epigraphs in Bharatam are in Prakrit Brahmi.

Vedic Age relates to the period when the r.cas of the R.gveda were composed (as distinct from the time when the r.cas were compiled into Sam.hitas). According to Matsya Pura_n.a, there was only one Veda and later occurred the arrangement into four Vedas and the evolution of s'a_khas (which are also referred to as caran.a or bheda) in consonance with the development of the Vedic tradition. **Eko vedas'catus.pa_dah sam.hr.tya tu punah punah** (Matsya 143.10). There are also anus'a_khas or upas'a_khas which indicate the further development of the s'a_khas. (**ityeta_h pratis'a_kha_bhyo hyanus'a_kha_ dvijottama**: Vis.n.u P. III,4.25). The s'a_khas are books enshrining particular traditions (the Sam.hita_, Bra_hman.a and Su_tra traditions) which have been nurtured as sva_dhya_ya (consisting of mantra and bra_hman.a) and transmitted orally from generation to generation to regulate the performance of yajn~a. Many s'a_khas were locality specific. "That the Ka_n.va Sam.hita_ was prevalent in Kuru-country, is known from the line – **es.a vah kuravo ra_ja_.** Its equivalent in the Taittiri_ya S'a_kha_ is **es.a vo bharato ra_ja_,**" (Ganga Sagar Rai, 1990, *Vedic S'a_khas*, Varanasi, Ratna Publications).

It will be apposite to recall the balanced views expressed by Maurice Winternitz in the context of Indian literary tradition in his work, *A History of Indian Literature*. "… The *historical* facts and hypotheses, such as mention of Vedic gods in the cuneiform inscriptions, and the relationship of Vedic antiquity to the A_ryan (Indo-Iranian) and Indo-European period, are so uncertain in themselves that the most divergent and contradictory conclusions have been drawn from them. Nevertheless, we have now such likely evidence of relations between ancient India and western Asia penetrating as far west as Asia Minor in the second millennium B.C.E., that Vedic-culture can be traced back *at least* to the second millennium B.C… The linguistic facts, the near relationship between the language of the Veda and that of the Avesta on the one hand, and between the Vedic language and classical Sanskrit on the

other, do not yield any positive results… As all the external evidence fails, we are compelled to rely on the *evidence arising out of the history of Indian literature itself*, for the age of the Veda. The surest evidence in this respect is still the fact that Pa_rs'va, Maha_vi_ra and Buddha presuppose the entire Veda as a literature to all intents and purposes completed, and this is a limit which we must not exceed. We cannot, however, explain the development of the whole of this great literature, if we assume as late a date as round about 1200 BC or 1500 BC as its starting-point. We shall probably have to date the beginning of this development about 2000 or 2500 BC, and the end of it between 750 and 500 BC. The more prudent course, however, is to steer clear of any fixed dates, and to guard against the extremes of a stupendously ancient period or a ludicrously modern epoch." (Maurice Winternitz, 1907, *Geschichte der Indischen Literatur*, tr. *A History of Indian Literature*, 1981, Delhi, Motilal Banarsidass, pp. 287-288).

"Parikshit appears in a famous laud of the Twentieth Book of the Atharva Veda Sam.hita_ (AV 20.127.7.10) as a king of the Kurus (kauravya) whose kingdom (ra_s.t.ra) flowed with milk and honey… in the Aitareya and S'atapatha Bra_hman.as the famous king Janamejaya bears the patronymic Pa_rikshita (son of Parikshit). The Aitareya Bra_hman.a (VIII.21), for example, informs us that the priest Tura Ka_vasheya 'annointed Janameja Pa_rikshita with the great anointing of Indra." (**etena ha va_ aindren.a maha_bhisheken.a turah ka_vasheyo janamejayam pa_rikshitam abhishishecha**)… the realm of the Kurus over which Parikshit ruled. The kingdom, according to epic tradition, stretched from the Sarasvati_ to the Ganges. In the Digvijayaparva it is taken to extend from the border of the land of the Kulindas (near the sources of Sutlej, the Jamuna and the Ganges) to that of the Su_rasenas and the Matsyas (in the Mathura_ and Baira_t. regions respectively), and from the frontier of Rohi_taka (Rohtak in the Eastern Punjab) to that of the Pan~cha_las (of Rohilkhand). It was divided into three parts, Kuruja_n:gala, the Kurus proper and Kurukshetra (MBh. I. 109.1). Kuruja_n:gala, as its name implies, was probably the wild region of the Kuru realm that stretched from the Ka_myaka forest on the banks of the Sarasvati_ to Kha_n.d.ava near (sami_patah) the Jamuna. (MBh. III.5.3)… The Kurus proper were probably located in the district around Hastina_pura (on the Ganges), identified with a place near Meerut. The boundaries of Kurukshetra are given in a passage of the Taittiri_ya Aran.yaka (Vedic Index I. Pp. 169-70) as being Kha_n.d.ava on the south, the Tu_rghna on the north, and the Pari_n.ah on the west (lit. hinder section, jaghana_rdha). The Maha_bha_rata (MBh. III.83.4) gives the following description of Kurukshetra: 'South of the Sarasvati_, and north of the Drishadvati_, he who lives in Kurukshetra really dwells in heaven. The region that lies between Taruntuka and Marantuka or Arantuka, the lakes of Ra_ma and Machakruka (Machakruka, Taruntuka and Marantuka are Yaksha dva_rapa_las guarding the boundaries of Kurukshetra)— this Kurukshetra which is also called Sa_manta pan~caka and the northern sacrificial altar (uttara vedi) of the grandsire (i.e. Brahma_).' Roughly speaking, the Kuru kingdom corresponded to modern Thanesar, Delhi and the greater part of the Upper Gangetic Doa_b. Within the kingdom flowed the rivers Arun.a_ (which joins the Sarasvati_ near Pehoa), Am.s'umati_, Hiran.vati_, A_paya_ (A_paga_ or Oghavati_, a branch of the Chitang), Kaus'iki_ (a branch of the Rakshi_), as well as the Sarasvati_ and the Drishadvati_ or the Rakshi_. (MBh. III.83.95.151; V.151.78). Here, too, was situated Saryan.a_vat, which the authors of the Vedic Index consider to have been a lake, like that known to the S'atapatha Bra_hman.a by the name of Anyatahplaksha_… According to the epic tradition the kings of Kurukshetra belonged to the Puru-Bharata family. The Paurava connection of the Kurus is suggested by the Rigvedic hymn (10.33.4) which refers to 'kuru-s'ravan.a' (lit. glory of the Kurus) as a

descendant of Trasadasyu, a famous king of the Pu_rus. (RV. 4.38.1; 7.19.3). The connection of the Bharatas with the Kuruland is also attested by Vedic evidence. A Rigvedic ode (RV 3.23) speaks of the two Bha_ratas, Devas'ravas and Devava_ta, as sacrificing in the land on the Drishadvati_, the A_paya_ and the Sarasvati_. Some famous ga_tha_s of the Bra_hman.as and the epic tells us (S'Br. 13.5.4.11; Ait. Br. 8.23; MBh. 7.66.8) that Bharata Dauhshanti made offerings on the Jamuna, the Ganges (Yamuna_m anu Ga_n:ga_ya_m) and the Sarasvati_. [The Dasyu of the Bra_hman.a period are: Andhras, S'abaras (Savaris of Gwalior and Sauras of Vizagapatam), Pulindas (of Bundelkhand) and Mu_tibas (? Of Musi river near Hyderabad Deccan): *Aitareya Bra_hman.a 7*.18]. The territory indicated in these laudatory verses is exactly the region which is later on so highly celebrated as the Kurukshetra… Among theose kings who are mentioned in the genealogical lists of the Maha_bha_rata as ancestors and predecessors of Parikshit (A_diparva, ch. 94 and 95), the names of the following occur in the Vedic literature: Puru_ravas Aila (RV. 10.95), A_yu (RV 1.53.10; 2.14.7), Yaya_ti Nahushya (RV 1.31.17; 10.63.1), Pu_ru (RV 7.8.4; 18.13), Bharata Dauhshanti Saudyumni (S'Br. 13.5.4; Ait. Br. 8.23), Ajami_d.ha (RV 4.44.6), R.iksha (RV 8.68.15), Sam.varan.a (RV 8.51.1), Kuru (RV 10.33.4), Uchchaihs'ravas (Jaimini_ya Upanis.ad Br. 3.29.1-3), Prati_pa Pra_tisatvana or Pra_ti sutvana (AV 20.129.2), Balhika Pra_tipi_ya (S'Br. 12.9.3.3), S'am.tanu (RV 10.98) and Dhr.itara_s.t.ra Vaichitravi_rya (Ka_t.haka Sam.hita_ 10.6)."(H.Raychaudhuri, 1972, *Political History of Ancient India*, 7th edn., Calcutta, University of Calcutta, pp. 11-22).

Saryan.a_vat is the source for naming the present-day State of Haryana. Sarasvati_ River was the domain of the Bharatas.

Puru_ravas Aila is mentioned only the tenth man.d.ala of the Rigveda and may denote a later-day king. The epic tradition (Ra_m. 7.103,21-22) notes that Aila is the son of a ruler who migrated from Ba_hli in Central Asia to mid-India. MBh. 3.90-22-25 located the birth place of Puru_ravas on a hill near the source of the Ganges. The Ba_hli (or ila_vr.tavars.a) associated with the Ka_rddma kings may relate to the areas close to Gan:gotri and may not connote a reference to Bactria in the Oxus valley. "… the *Papan~cha su_dani* refers to the Kurus— the most important of the Ailas according to the Maha_bha_rata and the Pura_n.as— as colonists from the trans-Hima_layan region known as Uttara Kuru. (Law, Ancient Mid-Indian Ks.atriya Tribes, p. 16)… In the Aihole Inscription of Raviki_rti, panegyrist of Pulakes'in II, dated S'aka 556 (expired) = AD 634-35, it is stated that at that time 3735 years had passed since the Bha_rata war: **trim.s'atsu tri-sahasreshu bha_rata_d a_hava_d itah sapta_bda-s'ata-yukteshu gateshvabdeshu pan~chasu** (Ep. Ind. VI, pp. 11,12). The date of the Bha_rata war which almost synchronized with the birth of Parikshit, is, according to this calculation and the testimony of A_ryabhat.a (A.D. 499), 3102 BC. This is the starting point of the so called Kali-yuga era." (Raychaudhuri, opcit.,, p. 24).

'Kva pa_rikshita_ abhavan (whither have the Pa_rikshitas gone)?' asks Bhujyu La_hya_yani; Yajn~avalkya responds: 'Thither where the performers of the horse sacrifice abide.' (Br.ihad. Upanis.ad, 3.3.1). This is clearly a reference to the continuing tradition of the as'vamedha in the Ganga-Yamuna doa_b and does not seem to refer to the haoma practices of the Avestan group who might have moved north-west to eastern Iran and moved to the right-banks of Sindhu river. An extraordinary evidence linking the R.gvedic references to the fire-workers echoed as fire-worshippers in the Zoroastrian faith and the emergence of the Bronze Age

civilization along the Sarasvati and Sindhu River Basins is provided by the thousands of *gabarbands* constructed on many rivers, most of them perhaps datable to ca. 3500 BC. The importance of the 'fire-workers' in the civilization is enshrined in the term used in Sindh: the *gabarband*. Gabarband means, literally, 'Zoroastrian dam'; gabar = Zoroastrians or fire-worshippers; band = dam or an stone enclosure used to contain or redirect water as an irrigation facility. (For a discussion on the semantics of 'gabar' cf. Balfour, E., 1885, *The Cyclopaedia of India: And of Eastern and Southern Asia, commercial, industrial and scientific*. 3 Vols., 3rd edn. London: Bernard Quaritch). Gabarbands, in thousands, are found in Sindh Kohistan, Kirthar and Baluchistan (Gedrosia) regions. They dominate the riverine courses in Sarawan, Jhalawan and along the Hab River. It is noted that gabarband is an ancient technology and began in thee first half ot the third millennium BC. (Louis Flam, 1981, *The Palaeogeography and Prehistoric Settlement Patterns in Sind, Pakistan (4000-2000 BC).* PhD Dissertation, University of Pennsylvania., Ahmad Gabarband in the Saruna Valley (After Hughes-Buller 1903-04, Gabarbands in Baluchistan, *Annual Report of the Archaeological Survey of India, 1903-04*: 194-201: Pl. LXI; and Possehl, G.L., 1999, Fig. 3.127). Parthians and Sassanians were also gabars, or fireworshippers. The L-shaped gabarbands are stone dams built not as full-scale dams but to check and (using the wings of the stone walls to) re-direct the flood waters into the gabarband catchment area, so that alluvium could be build up behind the bands (or dams) creating fertile agricultural fields of upto about two hectares in size.Gabarbands aligned to contain water and to create alluvial tracts (After Possehl, G.L., 1999, Fig. 3.128). "Gabar. Pers. A person not a Mahomedan, in general, but commonly a Zoroastrian, a Parsee or fire-worshipper; an idol-worshipper, an infidel; any unbeliever in Mahomedanism in general; but the word is more specially applied to a fire-worshipper. Meninski says, ''Ignicola, magus infidelis quivis paganus'. The word is more familiar to the people of Europe under the spellings Gaour and Geuebre. A small remnant of fire-worshippers exists in Persia, chiefly at Yezd in Khorasan; but most of their countrymen have emigrated to India, where, especially at Bombay, they flourish under the name of Parsee. According to the dictionary, Burhan-I-Kattea, Gabar is used in the name of Magi, which signifies a fire-worshipper, Gabar man-I-Magh bashad, keh atash purust ast, i.e., Gabar means a Magh, which is a fire-worshipper. This is sometimes written, and very often pronounced, Gavr, by a change of letters frequent in Persian, as in other languages. Gavr, we learn from the dictionary Jahangiri, means those fireworshippers who observe the religion of Zardusht (or Zoroaster), and they are also called Magh. But Origen, in the 3rd century, defending Christianity against Celsus, an Epicurean, who had alluded to the mysteries of Mithra, uses Kabar as equivalent to Persians. "Let Celsus know,' says he, 'that our prophets have not borrowed anything from the Persians or Kabirs' (Orig. contr. Cels. Lib. vi. p.291, Cantab. 1658). A Jewish writer, quoted by Hyde (Hist. Relig. Vet. Pers., cap. xxix), declares that the Persians call their priests (in the plural) Chaberin (or Khaberin), whilst the singular, Chaber or Khaber (occurring in the Talmud), is explained by Hebrew commentators as signifying Parsai or Persians… Dr. Hyde, however, as above cited, thinks that Chaber or Chaver denoted both a priest and a layman. There can be no doubt that the usages of a people which regard their dead are important evidences of the faith professed by them, or, if not clearly indicating it, that they may show what faith is not professed. The semi-exposure adopted by the Siah-posh has contributed probably to their being suspected to be a remnant of the Gabar, or followers of the reformer Zartusht, but no account has been heard of the least mention of fire-worship amongst them. There is the certainty that within the last three centuries there were people called Gabar in the Ka_bul countries, particularly in Lughman and Bajur; also that in the days of Baber there was a dialect called Gabari. We are also told that one of the divisions of Kafiristan was named Gabrak, but it does not follow that the

people called Gabar then professed the worship of fire. That in former times fire-worship existed to a certain, if limited, extent, in Afghanistan, is evidenced by the pyrethrae, or fire-altars, still crowning the crests of hills at Gard-dez, at Bamian, at Seghan, and at other places. Near Bamian is a cavern, containing enormous quantities of human bones, apparently a common receptacle of the remains of Gabar corpses; and to the present day the Parsees expose their dead on tower summits, but Tibetans, Chinese and Hindus often lay their dead on plains or in rivers. At Murki Khel, in the valley of Jalalabad, and under the Safed Koh, human bones are so abundant on the soil that walls are made of them. There is every reason to suppose it a sepulchral locality of the ancient Gabar; coins are found in some number there— *Ouseley's Travels*, I, p. 150." (Balfour, E., 1885, *The Cyclopaedia of India: And of Eastern and Southern Asia, commercial, industrial and scientific*. 3 Vols., 3rd edn. London: Bernard Quaritch, p. 1158). The concordant terms, Chaber, Chaver mentioned in this entry in Balfour's cyclopaedia provide a lead to the identification of the fire-worshippers. Dr. Rhys Davids locates Sauvi_ra to the north of Kathiawar and along the Gulf of Kach (*Buddhist India*, Map facing p. 320, and *Bha_gavata*, V, ch. 10; I, ch. 10, v.36); Alberuni equates Sauvi_ra with Multan and Jahrawar (*Alberuni's India*, vol. I, pp. 300, 302: Sauvi_ra includes the littoral as well as the inland portion lying to the east of the Sindhu as far as Multa_n, with the capital city called Vitabhaya, according to Jaina *Pravachanasa_roddha_ra*). Ma_rkan.d.eya Pura_n.a (ch. 57) notes that Sindhu and Sauvi_ra are in the northern part of India and close to Gandha_ra and Madra. Rapson identifies Sauvi_ra with Sindh province (*Ancient India*, p. 168). One conjecture is that Sauvi_ra was the Sophir or Ophir mentioned in the Bible. "Part of the modern territory of Sind may have been included in Sauvi_ra whose southern limits undoubtedly reached the sea, because the *Milinda- Pan~ho* mentions it in a list of countries where 'ships do congregate'… In Skandapura_n.a (*Prabha_sa-kshetra Ma_ha_tmya*, Ch. 278), referring to the famous temple of the Sun at Mu_la-stha_na or Multajn_n, says that stood on the banks of the river Devika_… In the Agnipura_n.a (Ch. 200), the Devika_ is brought into special relations with the realm of Sauvi_ra (sauvi_rara_jasya pura_ maitreyobhu_t purohitah tena ca_yatanam vis.n.oh ka_ritam devika_tat.e)… Kachcha had come under the sway of the Great Satrap (Rudrada_man) as early as 130 A.D…, " (Raychaudhuri, H., 1972, *Political History of Ancient India*, 7th edn., Calcutta, University Press, pp. 544-547). The Gabars or fire-worshippers were Sauvi_ras. The discovery of 'fire-altars' in the archaeological sites of regions east and west of Sindhu River Basin (cf. the fire-pits of hundreds of sites in Bahawalpur province), on the banks of the Sarasvati River and in Kalibangan, Banawali (both located on the banks of the Sarasvati River) and Lothal (perhaps an outfall area of the Sarasvati River, linking with the Nal Sarovar south of the Little Rann of Kutch) dated to the 3rd millennium BC is a clear indication of the dominance of the fire-worship in the entire Sarasvati River Basin. This is an affirmation of the myth of vad.ava_nala fire carried by the Sarasvati River as people moved eastward and westward with progressive desiccation of the mighty river. Bhagwan Singh notes (Bhagwan Singh, 1995, *The Vedic Harappans*, New Delhi, Aditya Prakashan, p. 224) that the term revata_ used in the context of Pan.is may be related to the mount Revand mentioned in reference to Vis'ta_spa: "When Zoroaster brought the religion...Vis'ta_spa put the a_dar-burzenmihr on its cultic place on mount Revand, which is also called pus't-e-Vis'taspa_n that is revant of Yt. 19.6...This Revand— another one lies not far south— is situated northwest of Nishapur, not far from Tos, near the turquoise mines (Herzfeld, Ernst, 1947, *Zoroaster and His World*, Princeton, I, 81-82). The Revand is a mountain in Khorasan on which the Burzin fire is settled. (*Avesta*, Bund. 12.18; Sirrozah 1.9).

Suniti Kumar Chatterji notes that the Latvian writer, Fr. Malbergis, wrote in 1856 that the

Latvians like the Russians and Germans came from the banks of the Ganga. The Latvian tradition is that a wise people, Burtnieks brought all science and knowledge to Latvia from India. The tradition further holds that Videvuds was a teacher of this profound wisdom. The Vaidilutes, the old Lithuanian priestesses tended the sacred fire as part of the Old Indo-European Balt religious rite and a modern Lithuanian poet suggested that this fire arrived in Lithuania from the banks of Ind. (Chatterji, S.K., 1968, *Balts and Aryans in their Indo-European Background,* Simla, pp. 23-24). Alfred Hillebrandt argues that the degradation of the term asura- (from its basic meaning 'lord' to the meaning of 'evil spirit') occurred because of the encounters between Indians and Iranians after their separation, but fore Zarathus'tra's reform. He adds that the phrase he 'lavo attributed to the asuras in the S'atapatha Bra_hman.a indicates that Indian enemies from the east are also included among asuras, since this phrase would be a Prakrit form from that area. (Alfred Hillebrandt, *Vedische Mythologie,* 3 vols., Breslau, Verlag von M. and H. Marcus, 1902, vol 2., p. 440). The following Indic etyma may explain the use of the term he 'layo: halla_ = tumult, noise (P.Ku.N.B.Or.H.); halphal = shaking, undulation (A.)(CDIAL 14017). Hallana = tossing about (Skt.); hallai – moves (Pkt.); alun = to shake (K.) ale, alaku = to shake (Ka.)(CDIAL 14003; 14918). Hillo_la = wave (Skt.); hillo_layati = swings, rocks (Dha_tup.); hilorna_ = to swing, rock to and fro (H.); hilolai = shakes (OMarw.)(CDIAL 14121). Hillo = a jerk, a shake; a push; a shock; hello = a jolting of a carriage (G.) helao = to move, drive in (Santali). The semantics, 'rocking to and fro' and 'wave' point to sailing on high seas. This is authenticated by a Tamil lexeme: e_le_lo = a word that occurs again and again in songs sung by boatmen or others while pulling or lifting together; e_le_lan- = name of a Chola king; e_lappa_t.t.u = boatmen's song in which the words e_lo_, e_le_lo occur again and again (Ta.lex.) This leads to a possible interpretation of some of the mlecchas, who shout, 'he 'lavo, he 'lavo', as 'sea-farers' and is consistent with the evidence of economic texts from Mesopotamia which point to extensive trade relations with 'meluhha', which is generally equated with the Indic civilization area.

S.C.Roy notes that Mun.d.as have a tradition that India was previously occupied by a metal-using people called Asuras. One tribe of the Mun.d.a group is called Asuras today. (Rai Bahadur S.C. Roy, The Asuras— ancient and modern, *The Journal of the Bihar and Orissa Research Society*, 12, 1926, 147). This analysis is consistent with the characterization of asura- with creative activity. Considering the sea-faring merchants of Indic civilization had traded in metals and ores over an extensive area and the evolution of the bronze-age, ca. 3500 B.C. in the region with the invention of alloying copper with tin to yield bronze and manufacture of hardened metallic weapons and tools, the dominant 'lordship' of the civilization would have rested with the people with asuric or creative capabilities, who were later identified as a group of people called 'asuras'. Vedic age was a peaceful age and the devas respected the asuras as their neighbours; indeed, the devas even worshipped the asuras for their superior power: **yatha_ deva_ asures.u s'raddha_m ugres.u cakrire (RV 10.151.3)** "Just as the devas rendered faithful worship to the powerful asuras… "
Two views of the formation of North Dravidian. After Elfenbein, J.H., 1987, A periplous of the 'Brahui problem', Studia Iranica, 16; pp. 215-33. This pattern of separation of the Brahuis is consistent with the suggestion earlier made by Jules Block that the Brahuis came to Baluchistan from South or Central India where other cognate languages were spoken. The vocabulary of Brahui is strongly influenced by Sindhi and Siraiki with substrate Indic words which find many cognates in Marathi, Gujarati and Kurukh languages; these verily constitute the substram Pra_kr.ts which influenced Vedic Sanskrit with words such as khala (threshing floor), la_n:gala (plough)…

H. Skold argued that asura could not have been derived from as's'ur. If the derivation were true, the s' in as's'ur should appear in Sanskrit as s' and in Avestan as s, not as the s and h we have in asura- and ahura-.(Hannes Skold, Were the Asuras Assyrians? *The Journal of the Royal Asiatic Socierty of Great Britain and Ireland*, April 1924, pp. 265-7. Von Bradke suggested that asura- could derive from as, 'to be', or ans, 'to support', perhaps the latter. (P.von Bradke, Beitrage zur altindischen Religions – und Sprachgeschichte, *Zeitschrift der Deutschen Morgenlandischen Gesellschaft*, 40, 1886, 347-8). Polome connects as's'ura with Hittite has's'us, which means king (E.Polome, L'etymologie due terme germanique *ansuz 'dieu soverain', *Etude Germanique*, 8, 1953, 41). Schlerath analyzes asura as as-ura and derives Avestan ahu- and ahura-, Indic asura-, Hittite has's'u and Latin erus from reconstructed root *axs- meaning 'beget'. (Bernfried Schlerath, Altindisch asu-, Awestisch ahu- und a_hnlich klingende Worter, in: *Pratida_nam: Indian, Iranian and Indo-European Studies presented to Franciscus Bernardus Jacobus Kuiper on his Sixtieth Birthday*, ed., by J.C. Heesterman, G.H. Schoker, and V.I. Subramoniam, The Hague, Mouton, 1968, p. 146). Hale proposes an alternative to Schlerath's etymology by suggesting an Indo-European *Hesu- from which came Avestan ahu- 'lord' and Hittite has's'u 'king' and an Indo-Iranian derivative of this word, *asura- from which Avestan ahura- and Vedic asura- derive (Wash Edward Hale, opcit., p. 36). Hale's argument is not convincing; if *Hesu- could have yielded Hittite has's'u, Vedic asura- could also have yielded the Hittite has's'u and Assyrian as's'ura. Such a straight-forward Vedic-Avestan route may also explain the presence of Sanskrit lexemes in Kikkuli's horse training manual, Indic names among the names of Mitanni kings and Vedic deities named in the Mitanni treaty. A validation of this hypothesis can be made by tracing the so-called Dravidian lexemes in R.gveda and identifying concordant Avestan glosses.

Winternitz had noted earlier as follows: "The vedic language differs from Sanskrit almost not at all in its phonetic content but in its greater antiquity especially by a richer stock of grammatical forms. Thus for example, Ancient Indian has a subjunctive which is lacking in Sanskrit; it has a dozen different infinitive endings of which there is only one left behind in Sanskrit. The aorist forms, plentifully represented in the Vedic language disappear more and more in Sanskrit. The case-endings and personal endings are more perfecdt in the oldest language than in later Sanskrit." ((Maurice Winternitz, 1907, *Geschichte der Indischen Literatur*, tr. *A History of Indian Literature*, 1981, Delhi, Motilal Banarsidass, pp. 35-36). There is undoubtedly close relationship between the language of the Veda and the Indo-Iranian basic language as evidenced by the earlier texts related to the Avestan language which evolved into the Ancient Persian of cuneiform inscriptions and the Ancient Bactrian of the Avesta.

J. Bloch, S. Levy and J. Przyluski, Burrow, Emeneau, Parpola, Kuiper, Hock, Southworth have made studies based on suppositions that Dravidian and Munda as substrate languages and as preceding Vedic Sanskrit. Kuiper, for example, notes that the Rigveda has some 300 words, that are NOT Indo-Aryan words (Kuiper 1991). Some examples are: br.bu, balbu_tha, ki_na_s'a, ki_kat.a, pramaganda, br.saya since roots ki_n, ki_k, mag, balb, br.s do not exist in IE. Masica proposes a Language 'x'. Southworth finds that many agricultural terms in use in Hindi (links with Apabhrams'a) simply do not have any IE cognates. Kuiper adduces -n- infixes in ka-bandha/ka-vandha, kar-kandhu, gandha_ri, pramaganda, s'akunti. Pinnow notes that the lexeme gand explained in names of rivers Ganga or Gan.d.aki_, may belong to Munda ga-n-d/gan.d, (Pinnow, 1959: 351). Did Sumerians immigrate from the east, from

Meluhha (mleccha)? These are indicators that the Saptasindhu region was perhaps a Proto-Vedic, Proto-Munda region which may explain why Vedic texts contain many Munda and Language 'X' words, as also agricultural terms (apart from flora, also many fauna, artisan, clothing, toiletry and household terms) with no cognates in what is currently known as Indo-European or as Dravidian. (cf. Southworth 1988: 663), See: http://www.1.shore.net/~india/ejvs Vol.5, 1999, Issue I (September).

There is no evidence, whatsoever, that Munda influenced directly the Avestan. The Avestan words cognate with the Rigvedic are explainable as derived from the Proto-Vedic language which included the Munda substrates (Mleccha, Meluhha) in the earliest Vedic period in the region which came to be called Bharatavars.a.

The pura_n.ic and epic age was an era of cultural fusion. "Intermarriages between the two tribes (devas and asuras) continues unchecked. Bhi_ma married Hidimba_, the son, born of their union, Ghat.otkaca fought on behalf of the Pa_n.d.avas in the Kuruks.etra battle. Aniruddha, the grandson of Va_sudeva married Us.a_, the daughter of Ba_n.a_sura. Pururava_'s son A_yu married the daughter of Svarbha_nu, an asura. Not only the intertribal marriage was acceptable, even the earlier Brahmanical law-givers went to the extent of including the custom of Asura form of marriage into their law-books and called Asura marriage. In such marriage, the bride was bought from her father by paying bride price (A_s'vala_yana Gr. S. 1.6; Baudha_yana Dharma S. 1.35; Gautama Dharma S. 4.12; Manusmr.ti 3.31). The Vasis.t.ha Dharma Su_tra (1.35) recognizes such marriage belonging to Manus.a form. Though other sacred texts look on it with disfavour, the Arthas'a_stra (3.2.10) allows it without criticism: pitr.prama_n.a_s' catva_rah pu_rve dharmya_h ma_tr.pitr.prama_n.a_h s'es.a_h. As for instance the marriage of Das'aratha of Ra_ma_yan.a and Pa_n.d.u of Maha_bha_ratta may be taken. Das'aratha of Ayodhya_ married Kaikeyi_and their son was illustrious Bharata. The sister of S'alya namely Ma_dri_ was united with Pa_n.d.u on payment of heavy bride price (MBh. 1.105.4- 5)… Pura_n.as… Yaya_ti married S'armis.t.ha_, the daughter of the Asura king Vr.s.aparva_ and had three sons namely Druhyu, Anu and Puru. Because of his affiliation with the mother's side, Puru was called an Asura… matriarchal nature of Asura society… the celebrated Brahminical myth of the churning of the oceasn is a popular ojne, where the Asuras seize the ambrosia, churned out of the ocean before the gods took possession of it… " (Upendranath Dhal, *Mahis.a_sura in Art and Thought*, 1991, Delhi, Eastern Book Linkers, p.27).

As'ur (Akkadian) has, by the nineteenth century BC, been recognized as the national god of Assyria. In political terms, he bestowed the scepter and the crown and blessed the Assyrians (Tikva Frymerkensky, Ashur, *Encyclopaedia of Religion*, Vol. I, Ed., M. Eliade, pp. 461 ff.) The enmity of Asuras with the gods is noted. (Brown, W.Norman, Proselytizing the Asuras: A noteor R.gveda 10.12, *Journal of the American Oriental Society*, 39, Part 2, 1919, pp. 100-103). Historicity of the Asuras is evaluated and Asuras are described as immigrants from Assyria and were the builders of the Harappan culture. As'ur the deity was symbolized by a winged diSkanda The As'ur people were renowned for magic, medicine, sculpture, architecture and military prowess. (A.Banerji Sastri, The Asuras in Indo-Iranian Literature, *JBROS*, XI.1, March 1926, pp. 110-139; Asura expansion in India, *JBROS*, XII.2, June 1926, pp. 243-285; II Asura expansion by sea, *JBROS*, XII.3, Sept. 1926, pp. 334-360; V Asura Institutions, *JBROS*, XII.4, December 1926, pp. 503-539). The settlements of Assur or Asura in Magadha or South Bihar are noted. (D.R. Bhandarkar, Aryan Immigrants into Eastern India, *ABORI*, XII.2, 1931, pp.

103-116). A comprehensive survey of the texts from the R.gveda and Bra_hman.as is used to analyse the meaning of the term 'asura' as lord, leader and as corroborated by Iranian mythology. It is noted that the terms asura and deva are both used to qualify the same Vedic deity— for example, Indra, Varun.a, Mitra, Agni, while the Iranian works recognize 'asura' as divine and 'daeva' as demoniac. (Wash E. Hale, *Asura in Early Vedic Religion*, Ph.D. Dissertation, Harvard University, 1980; Delhi, Motilal Banarsidass, 1986). An anthropological perspective identifies the asura as a scheduled tribe of Netarhat plateau of Chotanagpur, Bihar and surveys their customs, rites, economic and social conditions. (K.K.Leuva, The Asur— *A Study of Primitive Iron Smelters*, New Delhi, Bharatiya Adimjati Sevak Sangh, 1963). Asuric culture through the ages is attempted, as a fusion of cultures. (K.P. Chattopadhyaya, *The Ancient Indian Culture Contacts and Migrations*, 1970, Calcutta, Firma KL Mukhopadhyaya). The dominance, in ancient times, of Asuras in extensive areas of Africa and Eurasia is emphasized. (K.L. Jain Vasasiya, *Indian Asuras Colonised Europe*, 1990, Delhi, Itihas Vidya Prakashan). The myths related to the Asura Bali-Va_mana, as a benevolent king and as a devotee of S'iva, is presented. (G.C. Tripathi, Der Ursprung und die Entwicklung der Vaman-Legende in der indischen Literatur, 1968, Wiesbaden, Otto Harrassowitsz). The mythology of Bali is also presented (Clifford Hospital, *The Righteous Demon—A Study of Bali, 1984*, Vancouver, University of British Columbia). Mahis.a as a leader of Asuras in the context of the mythology of Mahis.a_suramardini is presented. In an evaluation of the genesis of the concept of Asura, it is noted the Ashur Marduk, the supreme deity of Babylonian pantheon was adopted as Ahur Mazda by the Persians after occupying Assyria.. (Upendranath Dhal, *Mahis.a_sura in Art and Thought*, 1991, Delhi, Eastern Book Linkers).

The following Dravidian lexemes are concordant with the semantics of a_rih, [cf. O.Ir. aire = nobleman]. To cite Mayrhofer: "To trace back the name of Aryans in Indo-Germanic time is not plausible, as the word evidently represents only an inner-aryan evolution which is based in a_rih. O.Ir. aire, nobleman is to be kept away according to Thumeysen." (M.Mayrhofer, *Kurzgefasstes etymologisches worterbuch des altindischen*, Heidelberg. 1953-77, Vol. I, p. 52). ar_an_ = sacrificer; ar_aviya virtuous; ar_aviya_n- = virtuous man; ar-avan- one who is virtuous, god, Buddha; ascetic; ar-am = moral or religious duty, virtue, dharma, Yama (Ta.); ar-a, ar-u virtue, charity, alms, law, dharma, Yama (Ka.); ar-am = law, dharma (Ma.)(DEDR 311). Grassman translates a_rya as: 1. good, kind, gracious, friendly which is said of gods, godly beings, of the singer presenting the offerings; 2. true, produce (yield etc.), stranger (from the meaning opposed to godly); 3. stranger (of the songs). (H. Grassmann, Worterbuch zum Rig-veda, Wiesbaden: O. Harrassowitz, 1955, col. 115). Naighan.t.u explains arya as master, lord (Pa_n. iii.i.103). Grassman (ibid., p. 183), connects the root a_r to praise, extol, commend (Geldner: erkennen; cf. RV. VIII.16.6; RV 10.48.3). The Dravidian lexemes cognate with the semantics of a_r: a_r to shout (Ta.); a.r- (a.t-) to call (Ko.); a_r, a_rcu to cry aloud (Ka.); ara- to moo, make loud hoarse noise (Kod.); a_rbat.a a joyful cry, triumph (Tu.); a_rcu to cry aloud, shout (Te.); a_r to sound (as bell etc.)(Pa.); a_rpa to shout (Kond.a); to call (Kui); a_rh'nai to invite (Kuwi)(DEDR 367). http://www.hindunet.org/saraswati/RiverSarasvati.pdf

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Ancient texts: Rigveda (1/164/49, 1/3/10, 1/3/12, 1/3/13, 2/30/8 , 3/53/12, 6/61/2, 3/23/4, 10.75/5, 2/41/16, 7/36/6, 7/95/1, 7/95/2), Mahabharata (6/49/50, 3/83/204).

Sangam Literature (Patir-r-uppattu): neeye vad.apaal munivan tad.avinul. to_nri cempu punaindu iyar-r-iya ce_n. ned.um puricai uvara_ i_kai tuvarai aan.d.u naarpattonbadu var..imur-ai vandal ve_l.irul. ve_l.e_ vir-ar- po_r an.n.al taar an.i yaanaic ce_t.t.u irunkove [Trans. Irunko, chief among the vel.ir, conquering warrior, rider of a garlanded elephant, undiminishingly munificent, coming from a northern lineage of 49 generations of rulers of Dwaraka embellished with copper-fortified, beautiful, long fortifications.] This reference points to an emphatic link between Hemacandra des'i (mleccha of Gujarat coastline) and old Tamil of Sangam times.

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